Tom,

Here are our consolidated comments on the questionnaire:

Question 1

- Add Engineering, Financials, and Human Resources to the list of applications ✓
- To 1c, it should say "software packages or consulting services"... ✓
- In addition, on 1c we should ask "what is driving the replacement" ✓

Question 2

②
- Should say "software packages"
- To the criteria list, here are some suggested additions: easy to integrate, hardware independent, conforms to standards, and vendor reputation. ✓

Question 3

- Should say "access to knowledgeable technical staff" ✓
- Add "Structure and quality of code" and "Adherence to standards" ✓

Question 4

- The lead-in should indicate that the expected time-frame for the question is 1995. ✓
- Add RDBMS to the technology list ✓

Question 5

- Eliminate. ✓

Question 6

- OK ✓

Please FAX me a final DRAFT and I'll give the OK to proceed. As we discussed, this one is our highest priority. Thanks!

52

CONFIDENTIAL

INPUT Questionnaire

Project Code/Catalog No. YN SW2 ☐☐☐☐☐☐☐☐☐☐

Study Title: Mission Critical Applications

Interviewer Initials ☐ DR

Type of Interview:

Interview Date 10 / 15 / 92

☐ Vendor ☐ Telephone

QC Initials ☐☐☐

☑ User ☐ On-Site

QC Date ☐☐ / ☐☐ / ☐☐

☐ Other ☐ Mail

Data Entry Initials ☐☐☐

Data Entry Date ☐☐ / ☐☐ / ☐☐

Company: Vicks Health Care

Company Type:

Address: (Div. of P+G)
330 S. Warminster RD
Hatboro, Pa

Sales:

Employees:

~~SE~~ Revenue: 750M – 100M
100M – 1B 217 mm+
over 1B

City/State/Zip: 19040-3404

Main Phone: 215 672-4000

FAX # for Richardson-Vicks per D+B

Respondent(s):

Name	Title	Phone/Ext.
Steve Adelsberger,	App. Support	x 1046

Referrals:

Industry (User Interviews Only): SIC code 283

☐ Discrete Mfg.
☐ Process Mfg.
☐ Transportation
☐ Utilities
☐ Communications
☐ Retail
☐ Wholesale
☐ Banking/Finance
☐ Insurance
☐ Medical
☐ Services
☐ Education
☐ Federal Government
☐ State & Local Government
☐ Consumer/Home
☐ Other Industry Specific
☐ Cross-Industry

Comments:

Respondent only on the job 6 months

RES 250/01
3/90

MISSION CRITICAL APPLICATIONS STUDY

My name is ________________. I'm with INPUT, a research and consulting firm in Teaneck, New Jersey. We are conducting a study on why and on what cycle companies replace their mission-critical applications. All the information you provide will be kept confidential, as well as your name and your company's name. In return for your assistance, we will send you a summary of the completed study at no charge.

1a. Which five applications do you expect your firm (or your division) to be putting the most priority on in the 1990s? (Check list below; add any others at bottom.)

1b. You did not mention [applications not checked off]. How important would you say these are? (5=very important; 1=not important at all)

Application	Check or Rating
Plant Operations	5
Environmental, health, safety & training	5
Customer service/logistics	1
Resource planning	4
Product Management	
Inventory	✓
payroll	✓
acctg	✓

One System

not done in my DIVISION

-OK too much about this one; interfaces with plant operations

2. Next, I would like to understand more about several of these applications. [Select those from the printed list that were checked or given a rating of 4 or 5; use one of the attached "Applications Sheets", for each application.]

Plant operations
PDct mgt
Inventory APPLICATION

(Note: Can be multiple)

A. What year was it first installed? 1991

B. What is the source of this application?

In-house developed ✓

Custom developed by a contractor ______

A commercial software package
(Name - __________) ______

Other (e.g., combination of above, developed by parent company) [describe]

C. Why was this source chosen?

D. Since installation, when have there been significant changes to the application and why were they made.

Change/Reason	Year
Improvements	
+ modifications	over the years

E. What are the three most important functions of this application? How well does the current application meet each of these functional requirements (5 = extremely well; 1 = poorly)? If 1-3, why?

Function	Rating	Reason/Why (if 1-3)
Inventory	?	Depends on who
quality Control		you talk to - (P)
accty Interface		some people liked
		the old system better

F. From a computer technology standpoint, please rate how important it would be to incorporate each of the following into this application (5 = very important; 1 = not very important)?

Technology Area	**Importance**
Client/server	3
Embedded CASE technology	3
Objected-oriented design & code	3
Artificial intelligence	3
Cooperative processing	3
Other:_______________	_____
_______________	_____

G. How likely is your organization to replace this application in the next five years? (Use prompts.)

Installing now	_____	(Go to H)
Planning now underway	_____	(Go to H)
Definitely planning to	_____	(Go to H)
Will probably install	_____	(Go to H)
May install	_____	(Go to H)
Will probably not	_____	(Go to I)
Will definitely not	✓	(Go to I)
Don't know	_____	(Go to I)

Why?

____

____

H. How likely is your firm to consider using a software package?

Definitely ______

Almost certainly ______

Probably ______

Probably not ______

Definitely not ______

Don't know ______

Why?

____

____

How much would this likelihood change if the package were much more flexible and tailorable than the current generation of software packages?

No effect ______

More likely to use a package ______

Much more likely to use ______

Don't know ______

I. What person, department or group is the main decision maker concerning changes to this application?

Corporate Central at P+G (MSD Dept.)

J. Over the next five years, which of the following ranges of investment do you expect your organization to make to this application? (Including in-house or consulting staff resources performing design, testing, installation, software licences, but excluding hardware)? [Can prompt with following]

Under $100,000	______	$1-5 M	______
$100K - 500K	✓	$5 - 10 M	______
$500K - $1 M	______	Over $10 M	______

Environmental **APPLICATION**

(Note: Can be multiple)

A. What year was it first installed? 1992 - Being installed

B. What is the source of this application?

In-house developed ______

Custom developed by a contractor ______

A commercial software package ✓
(Name - forgot)

Other (e.g., combination of above, developed by parent company) [describe]

C. Why was this source chosen?

I was not involved - (P) DK

D. Since installation, when have there been significant changes to the application and why were they made.

Change/Reason	Year

E. What are the three most important functions of this application? How well does the current application meet each of these functional requirements (5 = extremely well; 1 = poorly)? If 1-3, why?

Function	Rating	Reason/Why (if 1-3)
materials		Being
tracking		installed now
for		
Hazards		

F. From a computer technology standpoint, please rate how important it would be to incorporate each of the following into this application (5 = very important; 1 = not very important)?

Technology Area	**Importance**
Client/server	_____
Embedded CASE technology	_____
Objected-oriented design & code	_____
Artificial intelligence	_____
Cooperative processing	_____
Other:_______________	_____
_______________	_____

not applicable

G. How likely is your organization to replace this application in the next five years? (Use prompts.)

Installing now	✓	(Go to H)
Planning now underway	_____	(Go to H)
Definitely planning to	_____	(Go to H)
Will probably install	_____	(Go to H)
May install	_____	(Go to H)
Will probably not	_____	(Go to I)
Will definitely not	_____	(Go to I)
Don't know	_____	(Go to I)

Why?

____

____

H. How likely is your firm to consider using a software package?

Definitely	✓
Almost certainly	____
Probably	____
Probably not	____
Definitely not	____
Don't know	____

Why?

____

____

How much would this likelihood change if the package were much more flexible and tailorable than the current generation of software packages?

No effect	____
More likely to use a package	____
Much more likely to use	____
Don't know	____

I. What person, department or group is the main decision maker concerning changes to this application?

ENVIRONmental Engineer on Site

J. Over the next five years, which of the following ranges of investment do you expect your organization to make to this application? (Including in-house or consulting staff resources performing design, testing, installation, software licences, but excluding hardware)? [Can prompt with following]

Under $100,000	____	$1-5 M	____
$100K - 500K	____	$5 - 10 M	____
$500K - $1 M	____	Over $10 M	____

DK full Scope (P)
if it will Go into
one plant or Several
plants

Payroll **APPLICATION**

(Note: Can be multiple)

A. What year was it first installed? 1990

B. What is the source of this application?

In-house developed ____

Custom developed by a contractor ✓

A commercial software package (Name - ________) ____

Other (e.g., combination of above, developed by parent company) [describe]

C. Why was this source chosen?

D. Since installation, when have there been significant changes to the application and why were they made.

Change/Reason	**Year**

E. What are the three most important functions of this application? How well does the current application meet each of these functional requirements (5 = extremely well; 1 = poorly)? If 1-3, why?

Function	**Rating**	**Reason/Why (if 1-3)**
Payroll		5
interfaces with HR		5
		(Human Resources Dept

F. From a computer technology standpoint, please rate how important it would be to incorporate each of the following into this application (5 = very important; 1 = not very important)?

Technology Area	**Importance**
Client/server	1
Embedded CASE technology	1
Objected-oriented design & code	1
Artificial intelligence	1
Cooperative processing	1
Other:	

G. How likely is your organization to replace this application in the next five years? (Use prompts.)

Installing now		(Go to H)
Planning now underway		(Go to H)
Definitely planning to		(Go to H)
Will probably install		(Go to H)
May install		(Go to H)
Will probably not		(Go to I)
Will definitely not	✓	(Go to I)
Don't know		(Go to I)

Why?

H. How likely is your firm to consider using a software package?

Definitely ______

Almost certainly ______

Probably ______

Probably not ______

Definitely not ______

Don't know ______

Why?

____

____

How much would this likelihood change if the package were much more flexible and tailorable than the current generation of software packages?

No effect ______

More likely to use a package ______

Much more likely to use ______

Don't know ______

I. What person, department or group is the main decision maker concerning changes to this application?

Corporate MSD

J. Over the next five years, which of the following ranges of investment do you expect your organization to make to this application? (Including in-house or consulting staff resources performing design, testing, installation, software licences, but excluding hardware)? [Can prompt with following]

Under $100,000	______	$1-5 M	______
$100K - 500K	✓	$5 - 10 M	______
$500K - $1 M	______	Over $10 M	______

3. Now I would like to ask some more general questions.

   A. Are application changes and replacements cycles occurring at a different rate now, compared to say, five years ago? (e.g., percent change, reasons)

   We are installing a lot now - They are
   will level off soon - all in now

   B. What is the role of end users in producing changes to applications now as opposed to five years ago?

   Each wants to change it a different
   way - we (IS) work with them

   C. What would you say is the split of decision making authority between IS management and users regarding the decision to replace or change application software (i.e., allocate 100%)? It's an

   involved Process.
   7 plants in
   the area
   involved (P)

   - IS ______
   - User have input
   but
   not final Decison

4. Do you have any other comments on mission-critical applications in your organization or generally?

   ____

   ____

   ____

   ____

   + now, we are in Support mode

CONFIDENTIAL

INPUT Questionnaire

Project Code/Catalog No. YN SW2

Study Title: Mission Critical Applications

Interviewer Initials

Interview Date

Type of Interview:

☐ Vendor ☐ Telephone

☑ User ☐ On-Site

☐ Other ☐ Mail

QC Initials

QC Date

Data Entry Initials

Data Entry Date

Company: ______

Company Type: ______

Address: ______

Sales: ______

Employees: ______

~~S~~ Revenue: 750M – 100M ___
100M – 1B ___
over 1B ___

City/State/Zip: ______

Main Phone: ___/___-______

FAX # ______

Respondent(s):

Name	Title	Phone/Ext.

Referrals:

Industry (User Interviews Only): SIC code ______

☐ Discrete Mfg.
☐ Process Mfg.
☐ Transportation
☐ Utilities
☐ Communications
☐ Retail

☐ Wholesale
☐ Banking/Finance
☐ Insurance
☐ Medical
☐ Services
☐ Education

☐ Federal Government
☐ State & Local Government
☐ Consumer/Home
☐ Other Industry Specific
☐ Cross-Industry

Comments:

RES 250/01
3/90

MISSION CRITICAL APPLICATIONS STUDY

My name is ____________________. I'm with INPUT, a research and consulting firm in Teaneck, New Jersey. We are conducting a study on why and on what cycle companies replace their mission-critical applications. All the information you provide will be kept confidential, as well as your name and your company's name. In return for your assistance, we will send you a summary of the completed study at no charge.

1a. Which five applications do you expect your firm (or your division) to be putting the most priority on in the 1990s? (Check list below; add any others at bottom.)

1b. You did not mention [applications not checked off]. How important would you say these are? (5 = very important; 1 = not important at all)

Application	Check or Rating
Plant Operations	____________
Environmental, health, safety & training	____________
Customer service/logistics	____________
Resource planning	____________
Product Management	____________
__________________	____________
__________________	____________
__________________	____________
__________________	____________

2. Next, I would like to understand more about several of these applications. [Select those from the printed list that were checked or given a rating of 4 or 5; use one of the attached "Applications Sheets", for each application.]

____________________ **APPLICATION**

(Note: Can be multiple)

A. What year was it first installed? ________

B. What is the source of this application?

In-house developed ________

Custom developed by a contractor ________

A commercial software package ________
(Name - __________________)

Other (e.g., combination of above, developed by parent company) [describe]

____

____

C. Why was this source chosen?

____

____

D. Since installation, when have there been significant changes to the application and why were they made.

Change/Reason	**Year**

E. What are the three most important functions of this application? How well does the current application meet each of these functional requirements (5 = extremely well; 1 = poorly)? If 1-3, why?

Function	**Rating**	**Reason/Why (if 1-3)**

F. From a computer technology standpoint, please rate how important it would be to incorporate each of the following into this application (5 = very important; 1 = not very important)?

Technology Area	**Importance**
Client/server	______
Embedded CASE technology	______
Objected-oriented design & code	______
Artificial intelligence	______
Cooperative processing	______
Other:________________	______
________________	______

G. How likely is your organization to replace this application in the next five years? (Use prompts.)

Installing now	______	(Go to H)
Planning now underway	______	(Go to H)
Definitely planning to	______	(Go to H)
Will probably install	______	(Go to H)
May install	______	(Go to H)
Will probably not	______	(Go to I)
Will definitely not	______	(Go to I)
Don't know	______	(Go to I)

Why?

____

____

H. How likely is your firm to consider using a software package?

Definitely ______

Almost certainly ______

Probably ______

Probably not ______

Definitely not ______

Don't know ______

Why?

____

____

How much would this likelihood change if the package were much more flexible and tailorable than the current generation of software packages?

No effect ______

More likely to use a package ______

Much more likely to use ______

Don't know ______

I. What person, department or group is the main decision maker concerning changes to this application?

____

J. Over the next five years, which of the following ranges of investment do you expect your organization to make to this application? (Including in-house or consulting staff resources performing design, testing, installation, software licences, but excluding hardware)? [Can prompt with following]

Under $100,000	______	$1-5 M	______
$100K - 500K	______	$5 - 10 M	______
$500K - $1 M	______	Over $10 M	______

3. Now I would like to ask some more general questions.

   A. Are application changes and replacements cycles occurring at a different rate now, compared to say, five years ago? (e.g., percent change, reasons)

   B. What is the role of end users in producing changes to applications now as opposed to five years ago?

   C. What would you say is the split of decision making authority between IS management and users regarding the decision to replace or change application software (i.e., allocate 100%)?

      - IS ______
      - User ______

4. Do you have any other comments on mission-critical applications in your organization or generally?

____

____

____

____

INPUT®

Atrium at Glenpointe, 400 Frank W. Burr Blvd., Teaneck, NJ 07666 (201) 801-0050
Fax (201) 801-0441

FAX TRANSMITTAL FORM

Date: 11/6

Confidential: Y / N

Urgent: [✓ Y] / N

To: Name: Renee

Tel./Location:

Co.:

Page: 1 of 6

Fax No:

File: Chron
Contact
Other:

From: TAR

Subject: YNSW2/3

As you recall, this was paid in advance, with work to be defined. Situation

YNSW2 - PWS attached
- I think there are only 2 more ESOs left to be done - week of 11/13
- Assume you don't need schedule for them

YNSW3 · PWS attached
Sched attached
~~[illegible]~~ Letter confirming work attached

ADM 341/05 1/92

PROJECT SCHEDULE

Activity	Name	Act. Days	Factor	ESD	11/6 1	2	3	Week 12/11 4	5	6	7	8	9	10	11	12	13	14
Questionnaire	TA			½	½													
80 Int & Tab	X			6		1	2	2	1									
An JP/	TA²			2					1	1								
Rpt	TA			2						1	1							
Pres	TA			1							1							
TY	JP			½								½						
TOTAL PLAN SR.	▨		▨	▨														
TOTAL PLAN RA	▨		▨	▨														
TOTAL PLAN ESDs	▨	▨	▨	12														

Proj. Code: YNSW3 Proj. Name: Object Oriented Prepared by: TA

Proj. Manager: TA² Date: 11/6 rev

Page 1 of

PROJECT WORK STATEMENT

TITLE Object-Oriented Need

CLIENT Andersen Consulting

CONTRACT: ATTACHED____ TO FOLLOW____ LETTER ✓ VERBAL____

PROJECT LEADER TKF PROJECT CODE YN5603

DATE STARTED 11/2/92 PLANNED COMPLETION DATE 1/1/93

LEVEL OF EFFORT(Professional Man Days)____

TOTAL CONTRACT VALUE: $ or £ 19,000

REVENUE DISTRIBUTION (% or $) INPUT US 100 INPUT LTD____

REIMBURSABLE EXPENSES: NO____

YES x

EXP. BUDGET 1000

TO COVER:
TRAV: x
TELE: x
RPT. PREP.: x
OTHER:____

BILLING SCHEDULE DESCRIPTION All paid in advance

PROJECT DESCRIPTION To see object-oriented need in mfg

INDICATE TYPE OF WORK: REPORT x PRESENTATION____

THANK YOU PACKAGE: YES x NO x

ACCOUNTING USE ONLY: ENTERED ON CURRENT PROJECT LIST____

DISTRIBUTI

CONTRACT FILE

LIBRARY FILE

NEW JERSEY

INPUT LTD.

____
Originator

SHEILA (Y&Z on

BINDER COPY

____
Date Typed

PROJECT WORK STATEMENT Paid in Advance

TITLE Mission-Critical Applications

CLIENT Andersen

CONTRACT: ATTACHED_____ TO FOLLOW_____ LETTER ✓ VERBAL_____

PROJECT LEADER TAP PROJECT CODE YNSW2

DATE STARTED Oct 1 92 PLANNED COMPLETION DATE Nov 20

LEVEL OF EFFORT(Professional Man Days) 12

TOTAL CONTRACT VALUE: $ or £ $19,000

REVENUE DISTRIBUTION (% or $) INPUT US 100 INPUT LTD_____

REIMBURSABLE EXPENSES: NO_____

YES ✓

EXP. BUDGET 1,000 TO COVER: TRAV: ✓

TELE: ✓

RPT. PREP.: ✓

OTHER:_____

BILLING SCHEDULE DESCRIPTION All paid in advance

PROJECT DESCRIPTION Interview Mfg Cos to see appl needs

INDICATE TYPE OF WORK: REPORT ✓ PRESENTATION_____

THANK YOU PACKAGE: YES ✓ NO_____

ACCOUNTING USE ONLY: ENTERED ON CURRENT PROJECT LIST_____

DISTRIBUTI

CONTRACT FILE

LIBRARY FILE

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_____

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_____

Date Typed

INPUT®

Atrium at Glenpointe, 400 Frank W. Burr Blvd., Teaneck, NJ 07666 Tel. (201) 801-0050
Fax (201) 801-0441

October 27, 1992

Renee - YNSW3 -
See p 2

Thomas Moldauer
Andersen Consulting
69 W. Washington
Chicago, IL

Dear Tom:

This letter lays out the approach INPUT proposes in order to assess customer preferences and needs for C++ versus Smalltalk.

Scope/Methodology

As we discussed on the telephone, I have drafted a questionnaire to illustrate the scope of the study. The questionnaire was molded by the following logic:

- The importance of offering particular object-oriented facilities is directly proportional to the importance that customers place on being able to modify a package. That is, if a customer is happy to accept the functions contained in a standard package, then their views on Smalltalk probably are not very important.
- The importance of languages needs to be placed in context with other object-oriented and technical issues affecting modifications.
- Similarly, the votes of those most likely to install applications and use software packages should also receive more weight.

Language Evaluation

Question 4 in the questionnaire will pay special attention to the language choice issue, extracting comments, whatever the rating given. If the respondent has no particular opinion or knowledge on the issues in Question 4, we will get a referral to someone more knowledgeable. Having to do this will be a negative:

- We will be generally qualifying respondents inside the IS organization based on their knowledge of the applications selection process. If this person is informed generally, but not on language issues, this in itself is probably good evidence that object-oriented issues are not very important to the organization.
- The referral person may be a techie who is not well-connected with the overall selection process. We will pay special attention to these kinds of cases during the interview process.

Additional Information Needed From You

Please note that in question 1 we intend to insert a list of applications/modules for respondents to focus on. I want to use the ones that are most important to you. Please let me know which to insert.

We will interview 80 companies in the manufacturing sector (half large and half medium). Are there particular niches that we should include/exclude? Otherwise, we will stratify the sample to get a proportionate mix of subsectors of manufacturing.

Schedule

I can have some raw results for you 2-3 weeks after interviewing starts (depending on when I can fit this into the interviewing stream). These results would not include the weighting by those most likely to buy, who value modifications, etc. However, it should be helpful in your planning. The full analysis and report would be ready before Christmas.

Renee

As we discussed, this study, when completed, will exhaust the $40,000 originally set aside for market research in August.

I will be traveling on Friday and at the INPUT conference on Monday and Tuesday in California. I will be in (or around) INPUT's California office on Wednesday, Thursday and, possibly, Friday. However, I can be in communication with you with no more than a half day lag.

Sincerely,

Thomas O'Flaherty
Vice President

a:cust4:YNSW3P

INPUT®

Atrium at Glenpointe, 400 Frank W. Burr Blvd., Teaneck, NJ 07666 (201) 801-0050
Fax (201) 801-0441

FAX TRANSMITTAL FORM

Date: Dec 4

To: Name: PAC

Tel./Location: London

Co.:

Fax No:

From: TCR

Subject: Andersen Opportunity & Meeting w/PAC

Confidential: Y / N

Urgent: [✓ Y] / N

Page: 1 of 3

File: Chron

Contact

Other:

ADM 341/05 1/92

INPUT

CONFIDENTIAL—Property of INPUT

CONTACT REPORT

Contact Date: 12 4 92

INPUT Staff: Init. TCP Init. ______ ☐ INPUT office ☐ Client Office ☒ Other Tel

Date Written: 12/4/

Prog./Proj. ID YNSW3

	DISTRIBUTION: Action	Info.	By When	Describe Action-F/U
Company Andersen				
Name Tom Moldauer	TCP			4/ YNGOW
Title	PAC			① Set up mtg in
Address Chicago		PL		Col, Chicago 12/14-18
Phone: (312) 507-8743		Imai		② TCP meet w/ in
Fax: ( ) -				NJ 12/9

Tom very pleased with most recent work.

He said there is a probable study in the near future that is "much larger". (Since he has spent ≈ $80k with INPUT in the last 6 months, this must mean well into the six figures. He didn't go into detail, but the study would have these components, I think:

- Customer application requirements (IS &, probably, functional areas)
  - Manufacturing would be core (6-8 niches)
  - Other verticals possibly
  - Focus on software products

- Worldwide (U.S., major European mkts, probably some Asia)

He was apologetic but said due to size of project & politics within Andersen this would have to be competitive. He obviously wants us to get this. He wants to involve PAC because of PAC's visibility within Andersen. Moldauer wants to meet PAC to discuss this in more detail. I suggested week

✱Continued over

M&S 300/01 11/90 (R)

→

Mail List Change Order **1.** ☐ Update ☐ Correction ☐ Deletion ☐ Addition* Serial Number__________

2. Customer Type: ☐ Vendor ☐ Others ☐ Media ☐ User

3. Newsletters: ☐ EDI ☐ Field Service ☐ Other

4. Vendor: Vendor Type— ☐ Client ☐ Former/Report Client ☐ Prospect

- Contact Level— ☐ Executive ☐ Acquisition ☐ International ☐ Other
- If Exec. or Other Contact Level— ☐ Maintenance ☐ Equipment ☐ Communications ☐ Others ☐ Info. Svc.
- If Info. Services— ☐ Turnkey & Software ☐ Network & Processing ☐ Systems Integration ☐ Professional Svc.

5. If User: User Type— ☐ Client ☐ Former/Report Client ☐ Prospect

- Comm. Contact Level— ☐ Executive ☐ IS Mgmt. ☐ Other
- Fed. Contact Level— ☐ Executive ☐ Acquisition ☐ Prog. ☐ Manager/Technical ☐ Other
- If Fed. Executive— ☐ Info. Resource Mgr. ☐ Asst. Secretary ☐ Commander (Military) ☐ Agency Head
- If Fed. Other— ☐ Laboratory ☐ NIS ☐ Users ☐ GSA

* No names will be added without a completed change order and program manager approval.

Program Manager Authorization __________

CONTACT REPORT
Continuation

Company Andersen

Name Moldauer

of 12/14 in Cal (An alternative would be for PAC to stopover in Chicago if he had any travel scheduled prior to ~~Dec~~ ~~E~~ Dec 18 / that could go through Chicago)

TCP is meeting Moldauer in NJ on Dec 9 to review work done so far & we will almost certainly discuss new project further

TCP will make every effort to be at California mtg. Can probably combine with visit to STC in Denver +/or HP regarding a proposal.

Mail List Change Order 1. ☐ Update ☐ Correction ☐ Deletion ☐ Addition* Serial Number

2. Customer Type: ☐ Vendor ☐ Others ☐ Media ☐ User

3. Newsletters: ☐ EDI ☐ Field Service ☐ Other

4. Vendor: Vendor Type— ☐ Client ☐ Former/Report Client ☐ Prospect

- Contact Level— ☐ Executive ☐ Acquisition ☐ International ☐ Other
- If Exec. or Other Contact Level— ☐ Maintenance ☐ Equipment ☐ Communications ☐ Others ☐ Info. Svc.
- If Info. Services— ☐ Turnkey & Software ☐ Network & Processing ☐ Systems Integration ☐ Professional Svc.

5. If User: User Type— ☐ Client ☐ Former/Report Client ☐ Prospect

- Comm. Contact Level— ☐ Executive ☐ IS Mgmt. ☐ Other
- Fed. Contact Level— ☐ Executive ☐ Acquisition ☐ Prog. ☐ Manager/Technical ☐ Other
- If Fed. Executive— ☐ Info. Resource Mgr. ☐ Asst. Secretary ☐ Commander (Military) ☐ Agency Head
- If Fed. Other— ☐ Laboratory ☐ NIS ☐ Users ☐ GSA

* No names will be added without a completed change order and program manager approval.

Program Manager Authorization

CONTACT REPORT
Continuation

Company Andersen

Name Moldauer

of 12/14 in Cal (An alternative would be for PAC to stopover in Chicago if he had any travel scheduled prior to ~~Dec~~ ~~5~~ Dec 18 that could go through Chicago)

TCP is meeting Moldauer in NJ on Dec 9 to review work done so far & we will almost certainly discuss new project further

TCP will make every effort to be at California mtg. Can probably combine with visit to STC in Denver &/or HP regarding a proposal.

M&S 310 11/90

****
*** ACTIVITY REPORT ***
****

TRANSMISSION OK

TX/RX NO.	0012
CONNECTION TEL	01144716290179
CONNECTION ID	
START TIME	12/04 11:53
USAGE TIME	01'48
PAGES	3
RESULT	OK

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Fax (201) 801-0441

FAX TRANSMITTAL FORM

Date: Nov 16

Confidential: Y / N

Urgent: [✓ Y] / N

To: Name: Tom Moldauer

Tel./Location: 312 507 8743

Co.: Anderson

Page: 1 of 14

Fax No: 312 507 0510

File: Chron Transmission

Contact #1

Other:

From: Tom OFlaherty

Subject: Draft Report - Chemical & Drug Industries

- Permanent exhibit #'s not attached. Handwritten references. This could be cleaned up for mtg Tues if you need it
- I'm still working through additional implications, since some of the implications arising from the data have just come into focus in the last few days.

ADM 341/05 1/92

MEMORANDUM

DATE: August 28, 1992

TO: Tom Moldauer, Andersen

Fax: 312-507-2548

FROM: Tom O'Flaherty, INPUT

Hope you had a good vacation and are back into the swing of things.

Attached are two due diligence-related items we had discussed before you left on vacation.

- A research approach for the "due diligence" work
- Some ideas on process manufacturing vertical selection

PROCESS MANUFACTURING VERTICAL SELECTION

As I'm sure you're aware, one of the hardest things to identify is the number of potential customers for a software product, especially application software. Two variables are

- The number of different units within a firm that can use a copy of a product. This is an important issue for client/server-type products.
- Whether purchasing decisions are centralized or decentralized -- more firms are decentralizing than centralizing now.

Both variables argue for looking at "establishments", rather than "enterprises", to get baseline counts of opportunities.

Exhibit 1 shows the establishment count for three process segments.

- The $100 million cutoff is somewhere in the middle of the 250-499 group. Chemical companies do about $250k per employee in sales and the other two under $200k.
- Food has over twice as many potential customer sites as chemicals and almost an order of magnitude more than drugs.
- Drugs and chemicals share many systems features from a production standpoint; however, drugs is closer to food from a downstream, or marketing, standpoint.

Drugs and chemicals are probably more decentralized than food, reducing the number of sales points.

I would go for food

- It has the larger number of potential customers.
- We already have some recent insights into the sector from the "yardstick" research.

"Food" could be larger still if combined with "consumer products". My problem is that "consumer products" covers a very large range from a manufacturing standpoint.

Exhibit 2 takes five of the largest consumer product companies and breaks apart their product lines (and also provides a rough idea of size/importance). I draw several conclusions from this data:

- It would be difficult initially to develop targeted applications to cover many of their manufacturing systems needs.
- It would be more feasible to develop marketing-oriented products that are more horizontal in nature.

- There is also a problem in how to count, or even find, these kinds of companies:
    - SICs don't work, since there are a preponderance of industrial companies in most of the SICs in Exhibit 2.
    - Lists of "consumer product" companies tend to be short or contradictory. For me, it's almost "I know one when I see one", but that's an awkward method of arriving at a market population.

Maybe we should just consider the consumer products segment as a bonus opportunity that enhances the value of the food segment.

RESEARCH APPROACH TO "DUE DILIGENCE"

The general approach will be to utilize interview research from prospective customer groups. The topics covered will be somewhat similar to those used for Yardstick, but with the detailed focus on the specific applications areas being investigated (as opposed to having the respondents choose applications areas).

The questions will be cover the following:

- Issues/problems generally (to understand values, reasons for changing)
- Reasons for considering/not considering the use of packages; things that could make them change their plans
- Timing/size of new applications (for market sizing, growth)
- Feature/criteria lists; who decides
- Vendor issues: what they look for generally; specifics on individual vendors (where available)

50 companies or divisions should be interviewed, split between larger companies and smaller companies; we will want to understand how large, multi-division companies operate from both a systems standpoint and a management responsibility standpoint (e.g., how important is uniformity).

We will also want to explore the issue of tie-ins to other applications.

We will also selectively talk to other, especially potential, vendors. Planned activities are the most important, so the "interviews" will be less structured and often indirect (e.g., talking to third parties who have knowledge of vendor activities).

In addition to the above targeted research, we will also get information and assessments from other INPUT staff and we will take into account publicly-reported information.

I think that this approach will give us virtually all the information described in the "Market Research Requirements" draft you shared with INPUT. There are a few exceptions (that I do not think will leave significant voids):

- This information will be for the U.S. only; in a few places in the "Requirements" worldwide information is called for.

  I believe that our previous assumption should hold true: First see if there is a U.S. market, then look at other geographic markets

- List of Target Companies: Commercial lists can be obtained from sources such as Computer Intelligence or D&B. We should be able to supply at least a partial list from lists we use for interviewing

- "Key buyer values" do not necessarily depend on interviewing the key decision makers themselves. Often someone who is part of the process can provide perfectly adequate information on how the process operates quite efficiently.

  For example, We recently performed a study where the client insisted that we talk face-to-face with senior user executives; in most cases this turned out to be overkill; preparatory telephone interviews with others in the organization yielded very similar information (in one-half the time and at one-quarter the cost).

Ex 1

NUMBER OF ESTABLISHMENTS BY SIZE:

SELECTED PROCESS MANUFACTURING SEGMENTS

PROCESS MANUFACTURING SEGMENT	250-499 EMPLOYEES	500-999 EMPLOYEES	1,000+ EMPLOYEES	SUBTOTAL 250+ EMPLOYEES	SUBTOTAL 500+ EMPLOYEES
FOOD	912	376	124	1,412	500
DRUG	76	42	36	154	78
CHEMICAL (EXCLUDING DRUG, INCLUDING PETROLEUM REFINING)	341	165	103	609	268

YNSW2

Ex 2

DISTRIBUTION OF PRODUCT GROUPS IN FIVE LEADING CONSUMER PRODUCT COMPANIES

MAJOR SIC:	FOOD		PAPER	CHEMICALS				GLASS	FABRIC. METAL	ELECTRONIC ELECTRICAL	MISC. MANUFACTURING			RETAIL
3-DIGIT SIC:	DOG FOOD (204)	OILS (207)	SANITARY NAPKINS (267)	DRUGS (283)	SOAP & COSMETICS (284)	INDUST. CHEM. (286)	MISC. CHEM. (289)	GLASS (322)	CUTLERY (342)	APPLICANCES (363)	PENS (395)	COSTUME JEWELRY (396)	BRUSHES (399)	CATALOG (596)
COMPANY														
PROCTOR AND GAMBLE		5	2	3	1									
GILLETTE					2		5		1	3	4		6	
COLGATE	3				1			4					2	
INTERNATIONAL FLAVORS						1								
AVON					1			2				3		4

YNSW2

Source: SICs repprted to D&B in order of importance (4 digit SICs summarized into 3 digit SICs)

DRAFT

OUTLINE OF MAJOR OUTPUTS FOR DUE DILIGENCE

1. Market Size (by application*)

- o Applications to be installed (all sources; new or replacements)
- o Percent packages
- o General levels of dollar investment for application
- o Market size (from above)

2. Segmentation Factors

- o By size
- o By buying intention* (e.g., definite vs. likely vs no intention)
- o By buyer values (see # 3 below)
- o By level of investment
- o Other (as emerges from data)

3. Buyer Values

- o Feature/function values*
- o Importance of technology/specific technology
- o Importance of specific applications*

4. Decision Makers

- o User role generally
- o Variables by company size, industry and/or application* (or other)

5. Competitive Assessment

- o Competitors' assessment of market (vs. above)

- General direction/plans
- Strengths and weaknesses

6. Key Factors of Success (Summary of Above Findings)

- Applications
- Segments
- Features
- Technology
- Marketing

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Fax (201) 801-0441

FAX TRANSMITTAL FORM

Date: 9/29

To: Name: Tom Moldauer

Tel./Location:

Co.:

Fax No: 312-507-0510

From: Tom O'Flaherty

Subject:

Confidential: Y / N

Urgent: Y / N

Page: 1 of 6

File: Chron

Contact

Other:

ADM 341/05 1/92

September 28

To: Tom Moldauer, Andersen

Fm: Tom O'Flaherty

Via fax: 312-507-0510

Sub: Outline of Due Diligence Findings

Attached is a draft outline of the end product from INPUT's research for the due diligence effort.

Points 1 to 4 would come out of the customer research Asterisks show what probably couldn't be carried forward from the "food processor" interviews: The major changes to the interviewing will be to try to focus on specific applications groups and to find out the probability of new applications as well as using software packages.

Point 5 would come from interviews with selected vendors. We should decide on who these vendors should be about half way through the customer interviews; knowing the general results from the customer interviews will help us focus on specific competitive areas.

Point 6 would be largely summary.

As far as I can see, this would meet or exceed your original outline ("Market Research Requirements, August), with the same minor reservations as were in my memo of August 28. I have used the outline below because the results seem to flow better from the research; there would be no problem in putting it into a different order.

A copy of my 8/28 "Research Approach to 'Due Diligence'" is attached for your information.

DRAFT

OUTLINE OF MAJOR OUTPUTS FOR DUE DILIGENCE

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o Applications to be installed (all sources; new or replacements)

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o General levels of dollar investment for application

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o Feature/function values*

o Importance of technology/specific technology

o Importance of specific applications*

4. Decision Makers

o User role generally

o Variables by company size, industry and/or application* (or other)

5. Competitive Assessment

o Competitors' assessment of market (vs. above)

o General direction/plans

o Strengths and weaknesses

6. Key Factors of Success (Summary of Above Findings)

o Applications

o Segments

o Features

o Technology

o Marketing

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ventories in Current and Constant
o 1989

t ratios)

82	1983	1984	1985	1988	1987	1988	1989
49	369	409	419	425	450	490	522
63	171	188	190	189	199	218	232
89	98	107	115	120	127	137	144
96	100	113	115	116	124	135	146
82	574	620	645	657	701	729	781
17	307	326	331	318	331	342	366
33	139	157	172	186	207	212	230
30	127	136	143	153	163	175	185
.67	1.56	1.52	1.54	1.55	1.50	1.49	1.50
.94	1.80	1.73	1.74	1.68	1.61	1.58	1.58
.49	1.42	1.47	1.50	1.55	1.55	1.55	1.60
.35	1.27	1.20	1.24	1.32	1.26	1.30	1.27
46	383	403	414	432	457	478	482
59	178	186	189	192	214	224	224
94	102	108	112	120	121	127	126
93	102	109	113	120	122	127	132
582	584	631	838	642	669	689	702
315	309	330	321	316	323	330	334
133	142	158	169	171	186	192	199
134	133	143	149	155	160	166	169
.68	1.53	1.56	1.54	1.49	1.46	1.44	1.46
99	1.74	1.77	1.70	1.64	1.51	1.47	1.49
.41	1.39	1.46	1.51	1.43	1.54	1.52	1.58
.44	1.30	1.31	1.32	1.29	1.31	1.31	1.28

17. [2] Average inventories to average sales. Average
rage monthly sales for fourth quarter. [4] End of fourth

siness Reports, "Manufacturing and Trade Inventories
U.S. Bureau of Economic Analysis, *Survey of Current*

d Profits, by Asset Size: 1970 to 1989

r. Through 1975, corporations under $10 million based
value for complete canvass was raised in 1980 to $25
es continue to be sampled, except as noted. For details

ASSET-SIZE CLASS				
5-$50 mil	$50-$100 mil.	$100-$250 mil.	$250 mil.-$1 bil.	$1 bil. and over
533	366	289	218	102
705	450	392	276	151
941	590	491	369	244
863	683	559	403	275
872	703	601	420	287
896	744	608	428	281
962	741	628	445	291
1,007	811	676	481	318
(NA)	783	729	550	334
(NA)	781	750	579	347
20,138	25,946	47,783	112,475	282,320
24,720	31,395	62,524	139,113	423,705
34,930	41,963	75,284	179,959	882,129
41,766	52,673	87,391	194,212	1,124,612
49,419	53,517	94,315	206,698	1,233,288
52,669	58,019	96,748	208,403	1,298,720
55,974	58,233	97,908	217,341	1,356,137
50,171	60,874	109,458	235,368	1,465,853
53,461	62,190	110,411	261,880	1,625,404
56,548	68,149	117,014	282,056	1,759,029
836	1,101	2,315	5,862	14,832
1,327	1,676	3,553	8,165	26,370
1,904	2,479	4,532	11,485	62,041
2,149	2,466	3,861	6,134	60,893
2,527	2,877	4,864	9,278	74,648
2,305	2,819	3,628	7,312	60,431
2,129	2,514	3,884	7,572	57,376
2,753	3,338	5,237	9,636	83,514
3,199	3,978	5,473	13,994	112,086
2,921	3,105	4,434	11,824	98,651

ations with less than $250,000 in assets at time of sample
e category. Source: U.S. Securities and Exchange
atistics of Income, annual. [1] After taxes.
mission, thereafter, U.S. Bureau of the Census, *Quarterly*

No. 903. Largest Industrial Corporations—Sales, Assets, Profits, and Stockholder's Equity, by Sales Group Rank: 1988 and 1989

[**In billions of dollars, except percent.** Excludes large privately owned companies that do not publish sales. Includes service and rental revenues, but companies must derive more than 50 percent of revenues from manufacturing or mining for years ending not later than **Dec. 31 of year stated,** sales exclude excise taxes collected by manufacturer and include discontinued operations. Minus sign (-) indicates decrease]

RANK BY SALES GROUP	SALES			ASSETS [1]			PROFITS [2]			STOCKHOLDER'S EQUITY		
	1988	1989	Percent change 1988-89	1988	1989	Percent change 1988-89	1988	1989	Percent change 1988-89	1988	1989	Percent change 1988-89
500 largest	2,023.1	2,164.8	7.0	2,078.8	2,298.8	10.6	115.0	105.7	-8.1	898.0	720.8	3.3
Top 100	1,409.9	1,518.3	7.7	1,541.1	1,709.4	10.9	81.3	75.5	-7.1	488.3	510.0	4.4
101 to 200	306.0				299.8	8.6	16.2	15.6	-3.7	104.0	107.1	3.0
201 to 300	155.3				144.3	8.3	10.5	7.4	-29.5	59.5	53.4	-10.3
301 to 400	92.5				85.9	17.7	4.5	4.9	8.9	27.4	31.4	14.6
401 to 500	59.4				59.2	6.9	2.5	2.4	-4.0	18.8	18.9	0.5
Percent of total:												
Top 100	89.7				74.4	(X)	70.7	71.4	(X)	70.0	70.8	(X)
101 to 200	15.1				13.0	(X)	14.1	14.8	(X)	14.9	14.9	(X)
201 to 300	7.7				6.3	(X)	9.5	7.0	(X)	8.5	7.4	(X)
301 to 400	4.6				3.7	(X)	3.9	4.6	(X)	3.9	4.3	(X)
401 to 500	2.9				2.6	(X)	2.2	2.3	(X)	2.7	2.6	(X)

X Not applicable. [1] Total ess at end of fiscal year, less depreciation and depletion. [2] After taxes,
special charges, and credits.
Source: Time Warner, Ne *Directories.* (Copyright.)

No. 904. 500 Larges rations—Selected Financial Items: 1970 to 1989

ITEM	1970	1980	1982	1983	1984	1985	1986	1987	1988	1989
Sales per employee	29.5	71.1	91.0	92.2	100.8	106.0	110.7	124.4	137.9	146.0
Changes in profits	(NA)	(NA)	(NA)	12.0	24.9	-19.1	-7.9	41.3	26.9	-8.1
Sales per dollar of stockholder's	2.4	3.12	2.74	2.66	2.78	2.80	2.79	2.77	2.93	2.96
Return on stockholder's equity	9.5	14.1	10.9	10.7	13.8	11.6	11.8	14.4	18.2	15.0
Return on sales	3.9	4.5	3.6	3.8	4.5	3.9	4.1	5.1	5.5	4.6
Total return to investors [1]	6.5	21.8	21.2	30.2	-0.8	26.3	18.1	8.6	14.1	17.5

NA Not available. [1] Includes and dividend yield, i.e., to an investor in the company's stock.
Source: Time Warner, New Y *rectories.* (Copyright.)

No. 905. 500 Largest I ations—Selected Financial Items, by Industry: 3 and 1989

[Data are medians and are ranked ployee for latest year shown. See headnote, table 903. Minus sign
(-) indicates d of median, see Guide to Tabular Presentation]

INDUSTRY	SALES PER EMPLOYEE ($1,000)		CHANGES IN PROFITS (percent)		SALES PER DOLLAR OF STOCK-HOLDER'S EQUITY (dol.)		RETURN ON STOCK-HOLDER'S EQUITY (percent)		RETURN ON SALES (percent)		TOTAL RETURN TO INVESTORS [1] (percent)	
	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989	1988	1989
Total	137.9	146.0	26.9	-8.1	2.93	2.96	16.2	15.0	5.5	4.7	14.1	17.5
Petroleum refining	469.4	537.0	62.7	-11.8	3.07	3.09	15.3	10.4	4.7	3.4	22.9	43.8
Mining, crude-oil production	290.2	314.8	13.8	7.0	1.66	1.56	2.4	12.7	3.3	9.6	9.2	51.7
Tobacco	153.2	226.8	17.4	8.5	3.37	5.21	22.5	20.1	7.8	5.4	36.9	12.3
Food	197.9	211.3	14.8	14.0	5.33	5.52	15.7	20.7	2.8	3.8	24.9	27.9
Chemicals	204.8	206.0	35.0	1.6	2.46	2.44	18.8	15.9	8.9	8.8	11.0	17.8
Metals	172.2	195.8	110.4	9.7	3.06	2.77	18.4	17.8	8.2	4.8	18.0	10.2
Beverages	203.0	194.4	18.5	18.3	2.35	2.31	22.8	23.2	8.0	8.1	21.2	41.0
Soaps, cosmetics	222.0	178.1	26.4	9.0	3.45	4.13	18.5	18.9	5.3	4.2	15.1	39.4
Forest products	168.7	174.8	45.0	-5.3	2.38	2.44	19.8	18.9	8.7	7.1	12.0	19.8
Building materials	158.3	146.2	-17.7	7.0	2.17	1.78	-3.3	13.8	4.5	3.9	24.9	12.9
Pharmaceuticals	132.1	144.3	16.8	19.8	1.91	1.88	23.8	25.5	13.5	13.0	14.7	37.6
Publishing, printing	117.0	124.0	12.8	8.6	2.11	2.16	17.7	15.9	7.1	8.4	8.8	15.4
Computers (incl. office equip.)	109.0	124.0	12.6	-9.0	2.38	2.57	14.7	12.8	6.2	5.9	-11.5	-14.0
Rubber and plastic products	124.0	122.6	15.5	-2.2	3.42	3.35	15.8	12.9	4.4	4.8	31.3	-1.8
Aerospace	112.2	120.4	11.6	-14.5	3.64	4.18	11.4	10.2	3.8	3.2	19.5	3.0
Metal products	120.8	119.9	17.8	3.4	2.83	3.01	12.7	18.4	4.8	6.2	9.9	24.9
Motor vehicles and parts	111.2	117.9	13.7	-21.2	3.96	4.07	14.5	9.8	3.5	3.0	22.2	-8.3
Industrial and farm equipment	102.4	113.7	25.2	-10.5	2.92	2.92	12.7	12.1	4.3	3.8	20.3	-2.2
Scientific, photographic equipment	109.2	113.5	17.2	4.8	2.14	2.28	12.1	13.0	5.0	5.1	1.8	11.9
Transportation equipment [2]	110.7	109.5	21.4	-9.4	2.96	3.64	13.4	10.9	3.1	3.0	39.2	-10.4
Electronics	95.1	100.4	18.9	10.0	2.60	2.90	16.8	14.5	5.1	4.2	4.8	12.6
Furniture	90.3	87.8	32.9	-4.8	2.67	3.52	15.9	14.0	5.6	4.8	15.0	1.8
Textiles	78.8	81.2	13.9	15.3	3.37	3.49	10.8	10.1	3.5	1.9	18.4	14.0
Apparel	56.4	58.2	-3.4	8.5	3.90	3.95	17.5	19.5	4.3	4.4	24.1	25.3

[1] Includes both price appreciation and dividend yield, i.e., to an investor in the company's stock. [2] Excludes motor vehicles and aircraft.
Source: Time Warner, New York, NY, *The Fortune Directories.* (Copyright.)

AUG-04-1[illegible] 13:01 FROM ANDERSEN CONSULTING TO 912018010441 P.01

ANDERSEN
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OVERVIEW OF OPPORTUNITY
Process Manufacturing Solution

PRODUCT LINE OBJECTIVE

The Process product line objective is to deliver a complete, integrated solution for process manufacturers to address the following functions:

- Plant Operations
- Environmental, Health, Safety & Training
- Customer Service/Logistics
- Resource Planning
- Product Management

This solution will be targetted specifically at three vertical market segments:

- Food & Consumer Packaged Goods
- Chemical
- Pharmaceutical

The solution will be delivered on a UNIX, open systems platform. Portions of the solution--such as plant operations, order entry, and procurement--will be developed as Eagle applications. Other portions--such as finite capacity scheduling, laboratory management, and maintenance management--will be delivered via relationships with best-of-breed open systems suppliers who concentrate on those niches.

INITIAL PRODUCT OBJECTIVE

Initial development will focus on Plant Operations functions, analagous to those currently covered by Process/1 for the VAX. This is a proven, active market where open systems approaches are highly valued due to the need to integrate a broad range of plant-floor controls and devices. Plant Operations functions also address a vital need to "bridge the gap" between vendor-focused plant-floor controls and aggregate, enterprise-level planning and finance systems. Subsequent Eagle efforts will fill out the product line "vision".

OVERVIEW OF OPPORTUNITY
Discrete/Repetitive

PRODUCT LINE OBJECTIVE

The Discrete/Repetitive product line objective is to ultimately deliver a fully integrated set of Manufacturing, Distribution, and Financial applications that will function across a very broad range of vertical industries.

This product line will be open, built on a UNIX platform, and will embody next-generation ERP concepts. It will reflect and support the re-engineered "best practices" of our current and future clients.

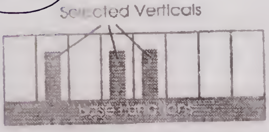
INITIAL PRODUCT OBJECTIVE

The initial offering will be a set of core manufacturing functions, like:

- Product Definition
- Process Definition
- Order Control
- Inventory Control
- Data Acquisition

Over time, a complete, integrated solution could be delivered around this core.

The initial objective is a strong basic capability and database that works across a broad range of manufacturing techniques and vertical industries, coupled with applications and UI's targetted towards 2 to 3 key vertical industry segments (to be determined).



MACPAC

OVERVIEW OF OPPORTUNITY
Product Data Management

PRODUCT OBJECTIVE

The Product Data Management objective is to deliver an in-depth, comprehensive system for the management of product definition, product engineering, product development processes, and product configuration. This includes providing access to and navigation among:

- Product Specifications
- CAD/CAM Models
- Drawings, Test Results
- Maintenance Documentation
- Validation Cycles
- Notification Cycles
- Approval Cycles
- Configuration Change Requests
- Revision Management
- Change Order Control

This solution would be targeted at the following industries:

- Telecommunications/Computers/Electronics
- Aerospace and Defense
- Automotive
- Electrical Equipment
- Medical Equipment

It would also be viable for industries that have a large base of equipment to maintain (transportation, utilities, petroleum...).

The system would be implemented on a UNIX platform as a client/server application ?

Link to prior ?

OVERVIEW OF OPPORTUNITY
Gas Management System

PRODUCT [illegible]

The Gas Management System product line objective is to produce a complete, integrated solution for gas & gas transmission companies to address the following functions:

- Gas Supply Planning
- Gas [illegible]
- Contract Management
- Nomination Management
- Gas Accounting
- Gas Control
- Measurement Systems

The products will be developed using client/server with open systems standards to ensure integration with [illegible] SCADA/Gas Control, Facilities/Network Modeling, Gas Supply Optimization and Demand Forecasting systems. Development will be done using object oriented techniques and enable the use of standard building blocks for the common functions and well defined integration points for client or [illegible] specific extensions.

?

—-DRAFT—-

Market Research Requirements

Market research should cover the areas listed below for each of the four Andersen Consulting product proposals. Detail and illustrations/examples for each of the areas below follows.

4-5 weeks

I. Description of Market Segment(s)

II. Description of Buyers

III. Market Size & Potential

IV. Market Stimulation (Discontinuities)

V. Definition of Key Success Factors

VI. Key Competitors and Their Direction in the Marketplace

VII. Competitor Strengths & Weaknesses

VIII. Opportunities for Differentiation

IX. Detailed Competitor Profiles

Int 30 ea ? → segment [illegible] A

Int ~~5~~ 5-10 [illegible] B

→ A

Segmentation } Size

Pkg - custom

----DRAFT----

I. Description of Market Segment(s)

Objective: Generate customer categories/segments to help classify potential buyers of the proposed product.

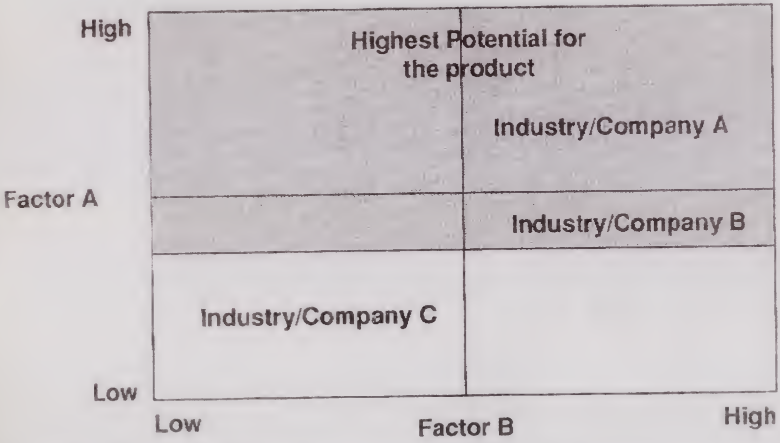
Illustrative for a cross-industry product: (Can also segment by size, etc....)

Importance	Typical Characteristics	Typical Industries
Critical	o Revenue directly dependent on network availability o Large, complex networks o Integrated voice and data mgmt.	Telecom, banking, financial services, A&D
Intensive	o Communications viewed as important o Medium to large and fairly complex networks o Generally integrated voice and data management	Utilities, retail/ wholesale, healthcare
Operational	o Communications viewed as a cost of doing business o Non-integrated voice and data management	Government, consumer products, construction

I. Description of Market Segment(s)

Objective: Graphical depiction of the key market segments and typical companies in each segment.

Illustrative:



High

Highest Potential for the product

Industry/Company A

Factor A

Industry/Company B

Industry/Company C

Low

Low

Factor B

High

----DRAFT----

II. Description of Buyer

Objective: Describe the potential buyer in detail, by market segment. Focus will be on key buyer values and purchase behavior.

Comments:

Need to go out and interview key decision makers in target companies to get at their values, purchase patterns, decisions, etc...this will also provide info on the key drivers that will make the buyer buy the product (market stimulation).

Illustrative:

Market Segment A

Company Name:
Characteristics as these pertain to our product offering:
Values:
Factors significantly affecting purchase decision:
Size of MIS/software systems budget.
Etc.....

—DRAFT—

III. Market Size & Potential

Objective: Determine the current size of the market (by key segments) and the growth potential for each. These should be broken out geographically, by number of high potential companies and by dollar size.

Illustrative: Market Size

Area:	# of Companies (also by # of sites & dollars)		
	Sgmt A	Sgmt B	Sgmt C
U.S.			
Other Americas			
Europe			
Middle East, Africa, India			
Asia/Pacific			
Total			

III. Market Size & Potential

List of Target Companies By Size, etc...

?

02

Objective: Need to have as comprehensive a list of high potential buyers for the product--US and international. This must be broken down into actual target companies, and grouped by the relative size of these companies based on revenues or some other useful measure.

Illustrative:

Company Name	Industry Classification	State	Total Rev (Mil)	Chemical Rev (Mil)	# of US Plants	# of Non-US Plants
Dow Chemical	Industrial Chemical	MI	$16,682	$16,682	30	15
Exxon Chemical	Petroleum	NY	93,839	11,153	107	10
Union Carbide	Industrial Chemical	CT	8,534	7,961	n/a	10
E.I. Dupont	Diversified Chemical	DE	32,917	7,200	47	7
Monsanto	Industrial Chemical	MO	8,721	5,711	59	5
etc....						

Divisions / Buying Point

IV. Market Stimulation

Objective: Determine the factors which make the product "hot" in the minds of potential buyers, including key trends and environmental factors affecting the purchase decision.

Comments:

Address the following points:

- o Why will companies buy this packaged application system?
- o How many are buying new systems?
- o How many are replacing systems?
- o Is there an industry impetus for change (e.g., regulatory, etc..)?
- o When will these potential buyers be making purchase decisions (i.e., What is our window of opportunity for the proposed product?)

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V. Definition of Key Success Factors*

Objective: Identify and describe the KSFs for each relevant market segment. This will be used to assess the relative status of the key competitors.

Illustrative: Market Segment A Key Success Factors

Development capabilities
- significant dollars for investment
- deep skills across all aspects of the technology

Product functions & features
- must span functional breadth and depth
- timing of product introduction is critical

Distribution channel
- national and international capabilities

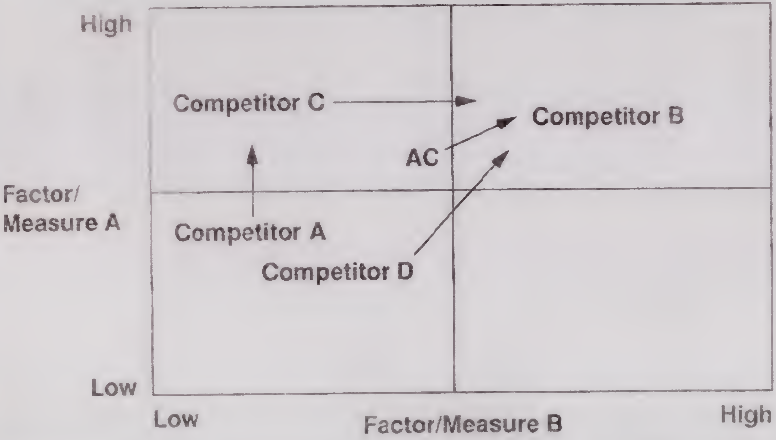
Vendor image
- proven track record

***Note: This must be done for each relevant market segment applicable to the product.**

VI. Key Competitors and Their Projected Direction in the Marketplace

Objective: Graphical depiction of key competitors and the direction we feel they will take in the market.

Illustrative:



High

Factor/
Measure A

Low

Competitor C

Competitor B

AC

Competitor A

Competitor D

Low

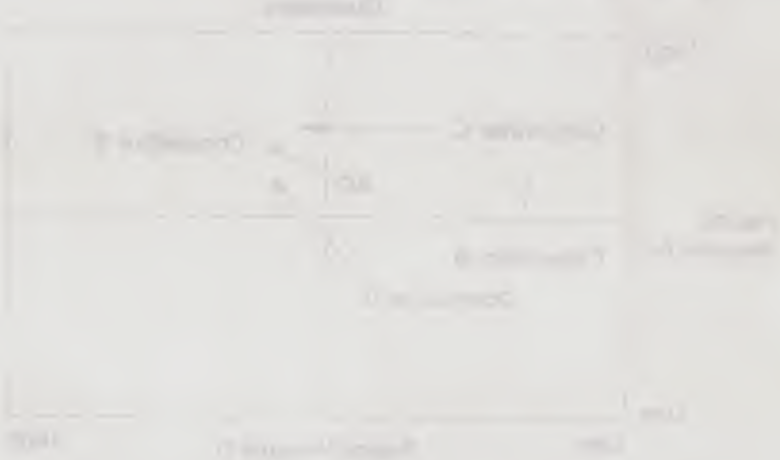
Factor/Measure B

High

VI. Key Changes and Their Projected Direction in the Marketplace

[illegible]

[illegible] in the market.



VII. Competitor Strengths & Weaknesses--Summary

Objective: Summarizes the competitive positions of key competitors, where their areas of strength are and where they are potentially vulnerable, along the key success factors affecting the marketplace.

Illustrative: Market Segment A

KSF	AC	IBM	D&BS	SAP
Development capabilities	●	●	○	○
Product Functions/ Features	○	○	○	●
Distribution Channels	●	○	N/A	○
Vendor Image	○	○	○	●

Legend:

● Strong
○ Average
○ Weak

VIII. Opportunities for Differentiation

Objective: **Detail the potential key differentiators vs. existing products in the marketplace today which are valued by customers. This is particularly significant since product differentiation is envisioned to be a strong basis for building competitive advantage.**

Illustrative:

Potential Key Differentiators	Competitor Assessment		
	Comp. A	Comp. B	Comp. C
GUI-based	no	yes, but...	no
Multi-platform	DEC only	IBM, DEC	DEC only
Open	n/a	yes	n/a
Product Feature A	n/a	n/a	n/a
etc....	etc...	etc...	etc...

—DRAFT—

IX. Detailed Competitor Profiles

Objective: Develop fairly detailed profiles of the top 3-5 competitors in each market segment.

Illustrative:

Competitor Name: XYZ

Product Name history: XYZ1--first to develop integrated network management product.

Strategy

- Provide network management to existing users to maintain and build hardware business.
- Create an industry network management standard, controlled by XYZ

Strengths

- Huge resources and skills available for this effort
- National sales organization with contracts with the key network management decisionmakers
- Ability to package and price product with hardware sales

Weaknesses:

- Old architecture, pieced together for this product
- Significant user of system resources in data shop
- Little in way of focused network management strategy

Relationships/Alliances:

- US West, TelWatch, Siemens/Rolm

Predictions/Thoughts:

- Vulnerable to ABC Co. because it probably cannot engineer product changes quickly enough to satisfy users.
- IBM standard will exist for years but will succumb to OSI in the long-term

DISTRIBUTION OF PRODUCT GROUPS

MAJOR SIC:	FOOD		PAPER	CHEMICALS			
3-DIGIT SIC:	DOG FOOD (204)	OILS (207)	SANITARY NAPKINS (267)	DRUGS (283)	SOAP & COSMETICS (284)	INDUST. CHEM. (286)	MISC. CHEM. (289)
COMPANY							
PROCTOR AND GAMBLE		5	2	3	1		
GILLETTE					2		5
COLGATE	3				1		
INTERNATIONAL FLAVORS						1	
AVON					1		

YNSW2 Source: SICs reported to D&B in order of importance (4 digit SICs summarized into 3 digit SICs)

in Five Leading Consumer Product Companies

Glass	Fabric. Metal	Electronic Electrical	Misc. Manufacturing			Retail
Glass (322)	Cutlery (342)	Applicances (363)	Pens (395)	Costume Jewelry (396)	Brushes (399)	Catalog (596)
	1	3	4		6	
4					2	
2				3		4

Table 1b. United States—Establishments, Employees, and Payroll by Industry by Employment-Size Class: 1989—Con.

[Excludes government employees, railroad employees, and self-employed persons. Size class 1 to 4 includes establishments having payroll but no employees during mid-March pay period. (D) denotes figures withheld to avoid disclosing data for individual companies. For explanation of terms, statement on reliability, and comparability with other data, see introductory text.]

SIC code	Industry	Total	Employment-size class								
			1 to 4	5 to 9	10 to 19	20 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 or more
	CONSTRUCTION—Con.										
17	Special trade contractors—Con.										
179	Misc. special trade contractors										
	Number of establishments	49 252	27 192	10 193	6 670	3 738	1 006	387	57	7	2
	Number of employees	466 682	47 598	67 485	89 170	110 323	67 774	57 087	19 530	(D)	(D)
	Payroll, first quarter ($1,000)	2 564 031	183 990	297 902	449 555	637 601	427 004	403 393	123 416	(D)	(D)
	Payroll, annual ($1,000)	11 742 512	1 099 946	1 383 837	2 051 080	2 880 107	1 855 898	1 765 991	527 048	(D)	(D)
1791	Structural steel arection										
	Number of establishments	3 209	1 001	690	668	568	188	79	15	-	-
	Number of employees	62 571	2 032	4 630	9 201	17 140	12 962	11 551	5 055	-	-
	Payroll, first quarter ($1,000)	403 246	9 999	23 833	53 420	102 617	87 027	87 139	39 211	-	-
	Payroll, annual ($1,000)	1 737 107	63 259	109 835	235 694	446 507	361 913	369 258	150 641	-	-
1793	Glass and glazing work										
	Number of establishments	3 880	1 658	1 060	697	363	86	15	1	-	-
	Number of employees	38 813	(D)	7 098	9 238	10 398	5 752	2 422	(D)	-	-
	Payroll, first quarter ($1,000)	225 401	(D)	35 822	53 081	66 329	37 932	16 003	(D)	-	-
	Payroll, annual ($1,000)	959 196	(D)	149 108	224 742	280 081	156 749	72 915	(D)	-	-
1794	Excavation work										
	Number of establishments	15 085	9 735	2 858	1 499	731	178	57	7	-	-
	Number of employees	98 589	18 205	18 782	17 893	21 529	11 775	8 357	2 048	-	-
	Payroll, first quarter ($1,000)	497 353	61 805	80 469	94 414	119 538	69 352	58 296	13 479	-	-
	Payroll, annual ($1,000)	2 577 125	386 906	402 365	477 114	601 054	339 078	299 872	70 736	-	-
1795	Wrecking and demolition work										
	Number of astablishments	747	292	175	145	90	30	10	4	-	1
	Number of employees	13 056	(D)	1 160	2 013	2 832	2 035	1 313	(D)	-	(D)
	Payroll, first quarter ($1,000)	85 769	(D)	5 787	12 838	15 512	13 597	9 689	(D)	-	(D)
	Payroll, annual ($1,000)	303 307	(D)	26 584	52 816	78 905	56 966	42 404	(D)	-	(D)
1796	Installing building equipment, n.a.c.										
	Number of establishments	2 852	996	513	561	483	180	104	10	4	1
	Number of employees	62 360	(D)	3 496	7 693	14 585	12 186	15 356	3 315	2 569	(D)
	Payroll, first quarter ($1,000)	504 702	(D)	22 703	57 497	114 878	102 014	135 607	26 828	23 437	(D)
	Payroll, annuel ($1,000)	2 067 351	(D)	99 003	235 063	477 521	412 279	541 814	100 193	94 990	(D)
1799	Special trade contractors, n.e.c.										
	Number of estsblishments	20 868	11 506	4 497	2 941	1 451	330	121	19	3	-
	Number of employees	180 715	20 351	29 711	39 078	42 282	22 106	17 969	(D)	(D)	-
	Payroll, first quarter ($1,000)	834 780	74 371	120 820	171 940	214 073	114 818	96 316	(D)	(D)	-
	Payroll, annual ($1,000)	3 945 460	448 882	561 133	799 369	976 984	519 967	438 663	(D)	(D)	-
—	Administrative and auxiliary										
	Number of establishments	405	83	77	77	76	45	29	11	3	4
	Number of employees	22 342	177	544	1 086	2 348	3 165	3 932	4 076	1 656	5 358
	Payroll, first quarter ($1,000)	249 365	3 886	7 346	12 887	32 326	39 748	46 356	34 533	18 688	53 595
	Payroll, annual ($1,000)	961 870	13 909	26 403	53 100	116 467	163 339	164 876	144 819	70 888	208 269
	MANUFACTURING										
	Number of astablishmanta	**363 166**	**111 732**	**82 516**	**59 328**	**59 965**	**30 832**	**24 347**	**8 799**	**3 879**	**1 966**
	Number of amployees	**18 492 445**	**212 677**	**421 674**	**816 319**	**1 876 814**	**2 162 329**	**3 749 780**	**3 036 938**	**2 509 596**	**4 704 316**
	Payroll, first quarter ($1,000)	**131 752 942**	**976 065**	**1 960 478**	**4 144 517**	**10 266 042**	**12 266 606**	**22 319 323**	**18 940 058**	**17 395 263**	**43 482 570**
	Payroll, annual ($1,000)	**533 068 047**	**5 697 549**	**8 376 262**	**17 697 878**	**43 167 200**	**50 666 375**	**90 496 059**	**78 230 090**	**69 366 716**	**171 367 916**
20	Food and kindred products										
	Number of estsblishments	20 182	4 761	2 806	3 118	3 691	2 306	2 088	912	376	124
	Number of employees	1 445 994	8 519	19 067	43 327	117 414	163 530	326 118	317 905	255 702	194 412
	Payroll, first quarter ($1,000)	7 756 942	30 733	88 028	173 721	550 319	842 181	1 794 537	1 751 123	1 449 937	1 096 363
	Payroll, annual ($1,000)	32 799 239	220 865	306 105	754 370	2 395 066	3 634 334	7 594 321	7 333 196	6 024 173	4 536 609
201	Meat products										
	Number of establishments	3 048	718	417	399	489	307	307	219	126	66
	Number of employees	358 957	1 424	2 774	5 396	15 527	21 721	48 638	78 362	88 275	96 840
	Payroll, first quarter ($1,000)	1 511 718	4 066	8 853	20 216	68 891	97 298	229 853	323 339	362 212	396 988
	Payroll, annual ($1,000)	6 417 874	26 587	35 888	83 805	293 851	422 818	953 079	1 366 138	1 544 466	1 691 042
2011	Meat packing plants										
	Number of establishments	1 290	411	207	184	198	95	89	46	28	32
	Number of employees	120 251	839	1 362	2 480	6 072	6 771	13 519	16 184	19 738	53 286
	Payroll, first quarter ($1,000)	540 860	2 045	3 987	9 167	25 347	29 586	59 984	73 774	100 320	236 650
	Payroll, annual ($1,000)	2 295 141	11 929	14 889	37 462	102 916	122 867	241 398	314 189	431 669	1 017 822
2013	Sausages and other prepared meats										
	Number of establishments	1 200	210	174	163	243	172	143	60	12	3
	Number of employees	78 875	457	1 164	2 482	7 803	12 074	22 391	20 761	7 511	4 032
	Payroll, first quarter ($1,000)	417 223	1 424	3 988	9 567	37 360	57 429	126 748	106 470	49 618	24 619
	Payroll, annual ($1,000)	1 737 404	7 631	17 387	40 449	157 938	254 550	521 845	440 368	197 136	100 100
2015	Poultry slaughtering and processing										
	Number of establishments	480	41	21	22	38	36	73	112	86	31
	Number of employees	158 500	68	142	307	1 314	2 578	12 445	41 098	61 026	39 522
	Payroll, first quarter ($1,000)	548 960	430	811	1 083	5 023	9 368	42 131	142 321	212 274	135 719
	Payroll, annual ($1,000)	2 360 716	4 380	2 681	3 641	27 698	41 088	184 567	607 880	915 661	573 120
202	Dairy products										
	Number of establishments	2 208	401	260	314	425	360	345	85	16	2
	Number of employees	141 188	703	(D)	4 374	13 776	25 748	52 381	28 222	10 521	(D)
	Payroll, first quarter ($1,000)	625 297	3 410	(D)	17 666	69 395	147 869	307 120	169 992	71 725	(D)
	Payroll, annual ($1,000)	3 438 934	16 983	(D)	77 058	287 779	612 143	1 291 508	706 928	296 431	(D)
2021	Creamery butter										
	Number of establishments	47	12	4	7	11	8	5	-	-	-
	Number of employees	1 669	30	21	91	388	496	643	-	-	-
	Payroll, first quarter ($1,000)	10 151	62	67	466	2 217	3 189	4 150	-	-	-
	Payroll, annual ($1,000)	42 291	818	321	2 237	9 988	12 859	16 268	-	-	-

Note: Employment-size classes are indicated as follows: A—0 to 19; B—20 to 99; C—100 to 249; E—250 to 499; F—500 to 999; G—1,000 to 2,499; H—2,500 to 4,999; I—5,000 to 9,999; J—10,000 to 24,999; K—25,000 to 49,999; L—50,000 to 99,999; M—100,000 or more.

Table 1b. United States—Establishments, Employees, and Payroll by Industry by Employment-Size Class: 1989—Con.

[Excludes government employees, railroad employees, and self-employed persons. Size class 1 to 4 includes establishments having payroll but no employees during mid-March pay period. (D) denotes figures withheld to avoid disclosing data for individual companies. For explanation of terms, statement on reliability, and comparability with other data, see introductory text.]

SIC code	Industry	Total	Employment-size class								
			1 to 4	5 to 9	10 to 19	20 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 or more
	MANUFACTURING—Con.										
27	Printing and publishing—Con.										
277	Greeting cards										
	Number of establishments	144	54	19	14	21	6	18	5	5	4
	Number of employees	18 784	103	125	178	731	387	2 377	1 702	3 714	9 467
	Payroll, first quarter ($1,000)	126 264	319	545	785	3 190	2 113	14 894	7 421	19 828	77 389
	Payroll, annual ($1,000)	501 595	2 850	2 499	3 668	14 920	7 394	85 814	32 074	81 612	290 764
278	Blankbooks and bookbinding										
	Number of establishments	1 464	320	212	242	322	216	122	33	15	2
	Number of employees	71 781	637	1 442	3 279	10 153	15 300	18 119	10 782	(D)	(D)
	Payroll, first quarter ($1,000)	350 895	2 469	6 311	14 364	46 429	70 730	85 647	52 435	(D)	(D)
	Payroll, annual ($1,000)	1 405 781	14 877	28 099	59 386	196 203	268 247	341 038	205 234	(D)	(D)
2782	Blankbooks and looseleaf binders										
	Number of establishments	484	59	41	54	115	109	68	24	13	1
	Number of employees	40 556	113	269	752	3 663	7 719	10 365	7 825	(D)	(D)
	Payroll, first quarter ($1,000)	214 330	572	1 198	3 879	18 490	36 680	53 687	39 982	(D)	(D)
	Payroll, annual ($1,000)	839 898	2 943	4 872	14 617	67 528	149 929	214 356	152 295	(D)	(D)
2789	Bookbinding and related work										
	Number of establishments	1 000	261	171	168	207	107	54	9	2	1
	Number of employees	31 225	524	1 173	2 527	8 490	7 581	7 754	2 957	(D)	(D)
	Payroll, first quarter ($1,000)	136 365	1 897	5 113	10 685	29 939	34 050	32 180	12 453	(D)	(D)
	Payroll, annual ($1,000)	565 883	11 934	21 227	44 569	128 875	138 318	126 682	52 939	(D)	(D)
279	Printing trade services										
	Number of establishments	4 277	1 802	899	686	562	237	79	8	4	-
	Number of employees	69 008	3 712	5 961	9 313	17 352	18 297	11 073	2 481	2 819	-
	Payroll, first quarter ($1,000)	492 388	16 523	31 175	58 024	123 710	133 434	90 731	19 436	19 355	-
	Payroll, annual ($1,000)	1 998 381	71 321	128 451	238 414	505 811	534 263	364 810	76 688	80 803	-
2791	Typesetting										
	Number of establishments	2 920	1 489	854	372	270	95	32	4	4	-
	Number of employees	38 052	3 010	4 295	5 010	8 282	6 501	4 764	1 351	2 819	-
	Payroll, first quarter ($1,000)	212 718	12 600	21 104	27 238	51 848	42 867	30 553	7 155	19 355	-
	Payroll, annual ($1,000)	881 399	52 517	85 818	109 899	207 638	172 558	123 688	28 280	80 803	-
2796	Platemaking services										
	Number of establishments	1 344	307	243	311	290	142	47	4	-	-
	Number of employees	32 825	689	1 854	4 262	9 005	9 796	8 289	1 130	-	-
	Payroll, first quarter ($1,000)	278 859	3 874	10 030	30 462	71 467	90 567	60 178	12 281	-	-
	Payroll, annual ($1,000)	1 133 329	18 568	40 520	127 058	296 328	361 725	240 722	48 408	-	-
28	Chemicals and allied products										
	Number of establishments	11 952	2 958	1 940	1 951	2 268	1 258	907	372	178	122
	Number of employees	858 271	5 702	13 214	27 396	71 783	88 084	138 979	129 796	122 741	260 576
	Payroll, first quarter ($1,000)	7 217 940	35 787	79 477	175 017	480 760	625 014	1 078 546	1 039 957	1 093 463	2 811 919
	Payroll, annual ($1,000)	29 181 168	195 511	334 387	748 680	2 000 739	2 587 207	4 364 991	4 263 531	4 440 124	10 206 018
281	Industrial inorganic chemicals										
	Number of establishments	1 365	368	218	235	258	129	99	31	19	10
	Number of employees	97 782	706	1 508	3 258	8 008	8 986	15 544	10 454	13 066	36 252
	Payroll, first quarter ($1,000)	929 651	5 357	10 422	23 310	83 928	73 743	132 624	82 568	132 878	404 821
	Payroll, annual ($1,000)	3 563 194	24 768	42 709	97 240	259 905	303 968	540 554	348 806	510 098	1 435 128
2812	Alkalies and chlorine										
	Number of establishments	47	5	4	5	7	9	13	2	2	-
	Number of employees	5 159	15	30	80	204	640	2 241	(D)	(D)	-
	Payroll, first quarter ($1,000)	44 464	149	133	350	1 380	4 793	19 877	(D)	(D)	-
	Payroll, annual ($1,000)	189 958	812	635	1 436	5 962	21 652	83 848	(D)	(D)	-
2813	Industrial gases										
	Number of establishments	578	228	102	103	103	28	9	2	1	-
	Number of employees	9 877	404	728	1 397	3 123	1 769	1 040	(D)	(D)	-
	Payroll, first quarter ($1,000)	82 654	3 186	5 528	10 020	24 828	14 521	7 905	(D)	(D)	-
	Payroll, annual ($1,000)	324 449	13 402	21 471	41 827	100 394	58 180	35 329	(D)	(D)	-
2816	Inorganic pigments										
	Number of establishments	95	12	11	17	20	14	10	8	5	-
	Number of employees	9 213	21	71	226	677	1 058	1 807	1 958	3 397	-
	Payroll, first quarter ($1,000)	80 909	201	446	1 579	4 267	8 682	15 720	16 523	33 491	-
	Payroll, annual ($1,000)	325 415	2 075	1 750	6 546	17 687	37 755	62 502	66 127	130 771	-
2819	Industrial inorganic chemicals, n.e.c.										
	Number of establishments	645	121	100	110	128	78	68	21	11	10
	Number of employees	73 414	266	873	1 555	4 004	5 519	10 343	7 167	7 635	36 252
	Payroll, first quarter ($1,000)	720 541	1 821	4 198	11 361	33 453	45 747	88 158	55 222	75 780	404 821
	Payroll, annual ($1,000)	2 719 819	8 699	18 465	47 429	135 662	188 381	355 510	240 645	291 702	1 435 128
282	Plastics materials and synthetics										
	Number of establishments	856	88	51	85	129	119	89	48	33	34
	Number of employees	130 305	158	346	920	4 178	6 587	14 034	17 804	22 681	81 419
	Payroll, first quarter ($1,000)	1 148 764	1 318	2 265	8 346	30 413	71 221	122 374	156 521	208 395	549 931
	Payroll, annual ($1,000)	4 605 303	8 394	8 873	27 189	119 158	286 533	498 986	642 600	863 496	2 130 074
2821	Plastics materials and resins										
	Number of establishments	498	88	33	53	117	105	87	29	21	7
	Number of employees	61 384	127	221	748	3 742	7 561	10 400	10 982	14 892	12 711
	Payroll, first quarter ($1,000)	587 849	1 189	1 541	5 685	27 949	63 014	100 644	105 901	143 284	138 442
	Payroll, annual ($1,000)	2 382 905	4 897	5 961	24 398	108 434	253 869	410 251	428 848	803 126	543 121
2822	Synthetic rubber										
	Number of establishments	76	17	12	8	6	8	9	8	8	2
	Number of employees	11 695	29	82	(D)	226	576	1 513	2 747	3 831	(D)
	Payroll, first quarter ($1,000)	111 036	115	370	(D)	1 530	5 307	10 466	24 892	38 528	(D)
	Payroll, annual ($1,000)	459 749	868	1 499	(D)	6 502	21 826	42 583	109 454	155 068	(D)
2823	Cellulosic manmade fibers										
	Number of establishments	9	-	1	1	1	-	-	1	-	5
	Number of employees	10 520	-	(D)	(D)	(D)	-	-	(D)	-	(D)
	Payroll, first quarter ($1,000)	77 428	-	(D)	(D)	(D)	-	-	(D)	-	(D)
	Payroll, annual ($1,000)	295 687	-	(D)	(D)	(D)	-	-	(D)	-	(D)

Note: Employment-size classes are indicated as follows: A—0 to 19; B—20 to 99; C—100 to 249; E—250 to 499; F—500 to 999; G—1,000 to 2,499; H—2,500 to 4,999; I—5,000 to 9,999; J—10,000 to 24,999; K—25,000 to 49,999; L—50,000 to 99,999; M—100,000 or more.

Table 1b. United States—Establishments, Employees, and Payroll by Industry by Employment-Size Class: 1989—Con.

[Excludes government employees, railroad employees, and self-employed persons. Size class 1 to 4 includes establishments having payroll but no employees during mid-March pay period. (D) denotes figures withheld to avoid disclosing data for individual companies. For explanation of terms, statement on reliability, and comparability with other data, see introductory text.]

SIC code	Industry	Total	Employment-size class								
			1 to 4	5 to 9	10 to 19	20 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 or more
	MANUFACTURING—Con.										
28	Chemicals and allied products—Con.										
282	Plastics materiels and synthetics—Con.										
2824	Organic fibers, noncellulosic										
	Number of estsblishments	71	4	5	3	4	8	13	10	8	20
	Number of amployees	46 686	2	(D)	(D)	(D)	450	2 121	(D)	4 138	36 082
	Payroll, first quarter ($1,000)	372 599	14	(D)	(D)	(D)	2 900	11 264	(D)	28 583	305 600
	Payroll, annual ($1,000)	1 465 815	1 858	(D)	(D)	(D)	10 838	46 152	(D)	125 302	1 182 779
283	Drugs										
	Number of establishments	1 344	261	174	178	268	149	140	78	42	36
	Number of employees	186 840	553	1 175	2 513	6 547	10 825	21 706	28 952	28 937	85 832
	Payroll, first quarter ($1,000)	1 600 703	4 325	7 965	18 683	51 893	84 259	148 653	194 643	236 265	876 017
	Payroll, annual ($1,000)	6 811 940	19 690	35 168	72 710	223 303	284 998	607 661	817 982	939 794	3 610 636
2833	Medicinals and botanicals										
	Number of astablishments	221	58	38	33	50	20	12	4	5	1
	Number of amployees	11 734	115	250	470	1 563	1 438	(D)	1 220	3 559	(D)
	Payroll, first quarter ($1,000)	101 395	1 015	1 764	3 258	10 061	10 629	(D)	11 165	39 002	(D)
	Payroll, annuel ($1,000)	431 796	3 974	6 181	13 244	43 288	42 727	(D)	47 221	154 218	(D)
2834	Pharmaceutical preparations										
	Number of establishments	699	128	90	93	123	71	81	55	24	34
	Number of employees	143 925	270	600	1 314	(D)	5 095	(D)	20 130	16 730	(D)
	Payroll, first quarter ($1,000)	1 272 670	2 108	3 996	8 856	(D)	29 831	(D)	144 768	121 647	(D)
	Payroll, annual ($1,000)	5 261 388	9 506	19 882	39 081	(D)	143 071	(D)	608 098	489 735	(D)
2835	Diegnostic substsnces										
	Number of establishments	159	28	14	18	33	22	28	10	5	1
	Number of employees	15 797	51	94	258	(D)	1 587	4 283	3 520	3 342	(D)
	Payroll, first quarter ($1,000)	122 738	393	804	1 885	(D)	10 230	29 791	25 412	31 442	(D)
	Payroll, annual ($1,000)	511 175	2 620	2 667	8 424	(D)	43 525	124 313	107 328	134 635	(D)
2836	Biological products except diagnostic										
	Number of establishments	231	42	28	29	62	38	19	7	8	-
	Number of amployees	15 262	88	204	407	1 907	2 507	2 781	2 082	5 306	-
	Payroll, first quarter ($1,000)	103 051	814	1 313	2 140	8 541	13 569	19 402	13 298	44 174	-
	Payroll, annual ($1,000)	402 273	2 175	5 574	6 750	39 140	55 875	74 416	55 335	161 208	-
284	Soap, cleaners, and toilet goods										
	Number of establishments	2 302	706	411	355	360	205	139	82	33	11
	Number of amployees	125 732	1 359	2 773	4 990	11 524	13 996	20 837	29 060	21 947	19 446
	Payroll, first quarter ($1,000)	875 754	6 666	14 751	29 312	72 544	88 666	135 642	202 962	178 112	147 099
	Payroll, annual ($1,000)	3 637 977	42 398	63 879	130 857	301 820	361 179	562 237	831 609	723 963	620 235
2841	Soap and other detergents										
	Number of establishments	731	226	152	124	109	56	33	22	8	1
	Number of employees	31 579	435	(D)	1 740	3 427	3 760	5 141	7 544	5 294	(D)
	Payroll, first quarter ($1,000)	239 200	2 066	(D)	10 873	21 441	27 985	34 662	56 347	52 377	(D)
	Payroll, annual ($1,000)	1 017 303	9 719	(D)	48 372	91 328	111 126	145 077	250 592	228 932	(D)
2842	Polishes and sanitation goods										
	Number of establishments	643	198	113	109	109	68	32	11	2	1
	Number of employees	21 321	421	777	1 507	3 492	4 607	4 398	3 854	(D)	(D)
	Payroll, first quarter ($1,000)	137 512	2 092	4 332	8 753	22 364	25 507	26 233	27 705	(D)	(D)
	Payroll, annual ($1,000)	579 597	10 458	18 419	38 661	92 438	103 858	111 982	104 775	(D)	(D)
2843	Surface activa agents										
	Number of estsblishments	196	35	28	39	43	25	20	5	1	-
	Number of amployees	6 983	75	(D)	578	1 518	1 748	2 618	1 708	(D)	-
	Payroll, first quarter ($1,000)	79 293	458	(D)	4 203	12 786	14 383	23 748	18 128	(D)	-
	Payroll, annual ($1,000)	318 217	2 005	(D)	20 485	48 006	58 843	92 960	64 142	(D)	-
2844	Toilet preparations										
	Number of establishments	678	208	105	81	97	56	54	44	22	9
	Number of employees	63 843	382	(D)	1 140	3 041	3 861	8 482	15 954	15 022	(D)
	Peyroll, first quarter ($1,000)	419 063	1 899	(D)	5 580	15 838	20 791	50 999	102 782	113 201	(D)
	Payroll, annual ($1,000)	1 717 032	15 955	(D)	24 174	69 124	89 354	212 198	412 100	443 472	(D)
285	Paints and allied products										
	Number of establishments	1 409	275	235	258	329	186	97	26	2	1
	Number of employees	55 882	(D)	1 823	3 728	10 404	13 014	15 138	(D)	(D)	(D)
	Payroll, first quarter ($1,000)	406 818	(D)	9 381	22 777	66 673	94 607	112 245	(D)	(D)	(D)
	Payroll, annual ($1,000)	1 664 422	(D)	41 293	99 477	277 603	389 075	450 638	(D)	(D)	(D)
286	Industrial organic chemicals										
	Number of estsblishments	907	128	100	103	178	127	154	64	34	19
	Number of employees	125 994	254	665	1 458	5 799	9 164	24 063	22 057	23 759	38 75
	Payroll, first quarter ($1,000)	1 241 355	1 912	4 620	11 551	44 089	75 307	212 800	216 296	232 942	441 83
	Payroll, annual ($1,000)	4 993 080	9 820	19 923	47 337	184 308	309 305	872 568	893 464	956 431	1 699 92
2861	Gum and wood chemicals										
	Number of estsblishments	75	22	13	9	13	9	9	-	-	-
	Number of employees	2 764	45	88	128	429	640	1 434	-	-	-
	Payroll, first quarter ($1,000)	15 730	234	357	679	2 047	3 332	9 081	-	-	
	Payroll, annual ($1,000)	64 570	1 452	1 618	2 736	8 427	13 892	38 845	-	-	-
2865	Cyclic crudes and intermediates										
	Number of establishments	181	20	18	19	34	29	34	19	8	[illegible]
	Number of employees	23 252	(D)	112	270	1 149	1 985	5 757	8 302	5 438	(D
	Payroll, first quarter ($1,000)	222 271	(D)	883	1 935	8 913	18 802	49 956	59 113	57 280	(D
	Payroll, annual ($1,000)	909 889	(D)	4 466	8 542	36 628	70 432	210 183	246 681	236 041	(D
2869	Industrial organic chemicals, n.e.c.										
	Number of establishments	851	86	71	75	131	89	111	45	26	1
	Number of employees	99 978	(D)	485	1 060	4 221	6 539	18 872	15 755	18 321	(D
	Payroll, first quarter ($1,000)	1 003 354	(D)	3 380	8 937	33 129	55 173	153 763	157 183	175 662	(D
	Payroll, annual ($1,000)	4 018 821	(D)	13 837	38 059	139 253	225 181	625 760	646 783	720 390	(D

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Table 1b. United States—Establishments, Employees, and Payroll by Industry by Employment-Size Class: 1989—Con.

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SIC code	Industry	Total	Employment-size class								
			1 to 4	5 to 9	10 to 19	20 to 49	50 to 99	100 to 249	250 to 499	500 to 999	1,000 or more
	MANUFACTURING—Con.										
28	Chemicals and allied products—Con.										
287	Agricultural chemicals										
	Number of establishments	880	209	166	163	179	86	47	17	6	7
	Number of employees	42 187	434	1 117	2 225	5 786	6 072	7 358	(D)	(D)	9 271
	Payroll, first quarter ($1,000)	321 301	2 314	8 059	11 730	29 898	35 827	57 453	(D)	(D)	92 238
	Payroll, annual ($1,000)	1 313 945	11 771	24 018	49 526	129 290	155 259	229 534	(D)	(D)	365 268
2873	Nitrogenous fertilizers										
	Number of establishments	157	36	20	21	40	18	19	2	1	-
	Number of employees	8 830	(D)	128	291	1 276	1 207	2 714	(D)	(D)	-
	Payroll, first quarter ($1,000)	52 773	(D)	587	1 463	8 092	8 270	24 183	(D)	(D)	-
	Payroll, annual ($1,000)	228 043	(D)	2 493	8 164	36 526	38 606	97 208	(D)	(D)	-
2874	Phosphatic fertilizers										
	Number of establishments	77	11	15	13	8	9	9	8	3	3
	Number of employees	11 200	20	104	184	287	694	1 618	1 974	2 130	4 189
	Payroll, first quarter ($1,000)	90 273	81	494	928	1 594	3 883	12 283	18 332	18 159	38 519
	Payroll, annual ($1,000)	381 637	522	2 363	3 941	7 308	17 828	54 727	64 824	84 336	146 390
2875	Fertilizers, mixing only										
	Number of establishments	397	98	98	63	87	24	7	-	-	-
	Number of employees	7 431	227	855	1 121	2 808	1 851	969	-	-	-
	Payroll, first quarter ($1,000)	38 810	941	3 589	5 375	12 879	8 015	8 011	-	-	-
	Payroll, annual ($1,000)	155 323	5 240	13 238	23 531	53 154	34 400	25 760	-	-	-
2879	Agricultural chemicals, n.e.c.										
	Number of establishments	243	80	33	46	42	35	12	9	2	4
	Number of employees	18 633	(D)	230	829	1 351	2 520	2 057	3 106	(D)	5 082
	Payroll, first quarter ($1,000)	139 343	(D)	1 389	3 964	7 241	15 859	12 978	24 704	(D)	53 719
	Payroll, annual ($1,000)	589 905	(D)	5 924	15 890	31 572	64 827	51 841	98 478	(D)	216 878
289	Miscellaneous chemical products										
	Number of establishments	2 743	873	527	564	548	252	141	28	9	3
	Number of employees	89 578	(D)	3 812	7 896	18 993	17 271	20 347	8 861	6 449	(D)
	Payroll, first quarter ($1,000)	838 368	(D)	22 018	51 458	118 535	119 907	150 645	86 626	52 715	(D)
	Payroll, annual ($1,000)	2 623 978	(D)	91 090	216 584	493 967	491 108	811 322	272 411	210 770	(D)
2891	Adhesives and sealants										
	Number of establishments	729	186	144	127	181	85	38	5	1	-
	Number of employees	22 115	343	978	1 773	5 153	5 821	5 755	(D)	(D)	-
	Payroll, first quarter ($1,000)	153 462	2 229	6 425	10 842	34 139	40 217	39 708	(D)	(D)	-
	Payroll, annual ($1,000)	634 418	17 130	25 657	44 168	139 153	160 314	161 418	(D)	(D)	-
2692	Explosives										
	Number of establishments	118	29	19	23	18	5	13	7	2	2
	Number of employees	13 131	73	134	307	(D)	349	2 034	2 746	(D)	(D)
	Payroll, first quarter ($1,000)	86 710	495	695	1 814	(D)	1 225	14 142	18 286	(D)	(D)
	Payroll, annual ($1,000)	349 375	2 011	3 371	8 174	(D)	5 386	54 853	74 511	(D)	(D)
2893	Printing ink										
	Number of establishments	498	73	93	136	146	33	13	1	1	-
	Number of employees	12 159	(D)	657	1 929	4 372	2 243	1 897	(D)	(D)	-
	Payroll, first quarter ($1,000)	88 296	(D)	3 814	13 128	33 285	17 146	12 619	(D)	(D)	-
	Payroll, annual ($1,000)	382 491	(D)	16 236	54 086	134 696	73 382	51 123	(D)	(D)	-
2895	Carbon black										
	Number of establishments	23	2	-	-	1	13	7	-	-	-
	Number of employees	1 907	(D)	-	-	(D)	905	963	-	-	-
	Payroll, first quarter ($1,000)	18 344	(D)	-	-	(D)	8 553	9 471	-	-	-
	Payroll, annual ($1,000)	74 803	(D)	-	-	(D)	34 898	39 258	-	-	-
2899	Chemical preparations, n.e.c.										
	Number of establishments	1 371	398	269	278	222	118	89	13	5	1
	Number of employees	40 115	(D)	1 830	3 867	8 928	7 953	9 766	4 107	3 827	(D)
	Payroll, first quarter ($1,000)	290 825	(D)	11 051	25 874	47 603	52 766	74 031	31 911	32 814	(D)
	Payroll, annual ($1,000)	1 199 277	(D)	45 683	110 158	205 542	217 328	301 682	126 915	131 354	(D)
29	Petroleum and coal products										
	Number of establishments	2 224	784	421	335	306	181	141	49	30	17
	Number of employees	113 587	1 781	2 789	(D)	9 390	(D)	21 540	18 952	20 216	24 998
	Payroll, first quarter ($1,000)	1 048 041	11 933	19 556	(D)	66 198	(D)	179 354	167 702	207 311	277 501
	Payroll, annual ($1,000)	4 339 563	78 583	98 795	(D)	306 072	(D)	745 764	647 954	854 985	1 091 075
291	Petroleum refining										
	Number of establishments	326	55	20	32	44	27	57	45	29	17
	Number of employees	74 363	102	130	(D)	1 458	(D)	9 938	15 622	(D)	24 998
	Payroll, first quarter ($1,000)	769 100	674	786	(D)	11 021	(D)	94 470	159 237	(D)	277 501
	Payroll, annual ($1,000)	3 058 850	8 077	3 342	(D)	48 387	(D)	372 661	808 760	(D)	1 091 075
295	Asphalt paving and roofing materials										
	Number of establishments	1 323	531	313	195	157	62	82	2	1	-
	Number of employees	24 957	1 356	2 059	2 871	4 688	4 410	8 832	(D)	(D)	-
	Payroll, first quarter ($1,000)	170 234	9 464	14 988	18 422	29 429	27 431	82 856	(D)	(D)	-
	Payroll, annual ($1,000)	856 967	57 755	80 315	101 377	162 199	134 258	284 929	(D)	(D)	-
2951	Asphalt paving mixtures and blocks										
	Number of establishments	1 061	480	277	155	109	27	12	1	-	-
	Number of employees	12 158	(D)	1 815	2 130	3 207	1 824	1 542	(D)	-	-
	Payroll, first quarter ($1,000)	82 903	(D)	13 552	14 872	20 746	11 203	11 131	(D)	-	-
	Payroll, annual ($1,000)	475 709	(D)	73 135	85 159	123 811	60 461	64 923	(D)	-	-
2952	Asphalt felts and coatings										
	Number of establishments	280	50	36	39	46	35	50	1	1	-
	Number of employees	12 789	(D)	244	529	1 481	2 586	7 090	(D)	(D)	-
	Payroll, first quarter ($1,000)	87 294	(D)	1 434	3 513	8 683	16 228	51 725	(D)	(D)	-
	Payroll, annual ($1,000)	380 994	(D)	7 180	16 024	38 586	73 797	220 006	(D)	(D)	-

Note: Employment-size classes are indicated as follows: A—0 to 19; B—20 to 99; C—100 to 249; E—250 to 499; F—500 to 999; G—1,000 to 2,499; H—2,500 to 4,999; I—5,000 to 9,999; J—10,000 to 24,999; K—25,000 to 49,999; L—50,000 to 99,999; M—100,000 or more.

Number of Establishments by Size: Selected Process Manufacturing Segments

Process Manufacturing Segment	250-499 Employees	500-999 Employees	1,000+ Employees	Subtotal: 250+ Employees	Subtotal 500+ Employees
Food	912	376	124	1,412	500
Drug	76	42	36	154	78
Chemical (excluding drugs, including petroleum refining)	341	165	103	609	268

: YNSW2

	250-499	500-999	1000+	Total	500+
Chemical	372	178	122		
(minus drug, plus pet refining	+45	+29	+17		
	341	165	103	609	268
Drug	76	42	36	154	78
Food	912	376	124	1,412	500

Tot Estabs (1987) 500+

Food 20,624 sales/emp ~~64800~~

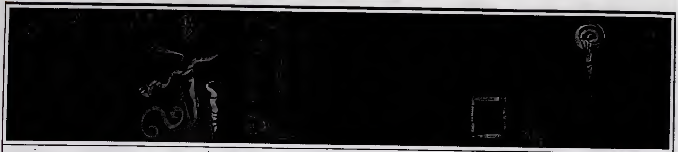
Chem ~~11905~~ 12109

(minus Pharm) plus pet ref ~~331~~ 331

Pharm ~~1281~~ 1356

1988

	Sales	Taste emp	Sales/emp
Food	195500	1,044	190k
Chem	162100	.659	250k
Pharm	80635	.467	175k



6 CONSUMER PRODUCTS

	COMPANY	MARKET VALUE TOP 1000 RANK	MARKET VALUE $ MIL.	MARKET VALUE CHANGE FROM 1991 %	SALES 12 MONTHS 1991 $ MIL.	SALES CHANGE FROM 1990 %	PROFITS 12 MONTHS 1991 $ MIL.	PROFITS CHANGE FROM 1990 %	ASSETS 12 MONTHS 1991 $ MIL.	ASSETS CHANGE FROM 1990 %	RETURN ON INVESTED CAPITAL %	RETURN ON COMMON EQUITY %
	INDUSTRY COMPOSITE		297210	19	217006	8	14079.6	13	212714	5	14.4	21.7

6A APPAREL

	COMPANY	MARKET VALUE TOP 1000 RANK	MARKET VALUE $ MIL.	MARKET VALUE CHANGE FROM 1991 %	SALES 12 MONTHS 1991 $ MIL.	SALES CHANGE FROM 1990 %	PROFITS 12 MONTHS 1991 $ MIL.	PROFITS CHANGE FROM 1990 %	ASSETS 12 MONTHS 1991 $ MIL.	ASSETS CHANGE FROM 1990 %	RETURN ON INVESTED CAPITAL %	RETURN ON COMMON EQUITY %
	GROUP COMPOSITE		20374	38	14133	16	1160.3	18	9781	9	19.6	22.7
1	NIKE	146	5375	36	3212	20	305.3	6	1746	19	25.8	25.5
2	LIZ CLAIBORNE	218	3428	−12	2007	16	222.7	8	1072	19	NA	25.3
3	REEBOK INTERNATIONAL	251	2991	8	2734	27	234.7	33	1431	2	23.7	30.6
4	FRUIT OF THE LOOM	308	2504	206	1514	5	82.7	−11	2131	−1	NA	12.9
5	VF	324	2409	63	2952	13	161.3	99	2127	15	13.4	19.1
6	RUSSELL	471	1496	42	805	13	56.8	−16	818	3	10.3	11.8
7	STRIDE RITE	482	1461	48	574	11	66.0	19	332	25	27.1	27.4
8	JONES APPAREL GROUP	782	710	NA	334	16	30.8	65	123	NA	38.8	42.8

6B APPLIANCES & HOME FURNISHINGS

	COMPANY	MARKET VALUE TOP 1000 RANK	MARKET VALUE $ MIL.	MARKET VALUE CHANGE FROM 1991 %	SALES 12 MONTHS 1991 $ MIL.	SALES CHANGE FROM 1990 %	PROFITS 12 MONTHS 1991 $ MIL.	PROFITS CHANGE FROM 1990 %	ASSETS 12 MONTHS 1991 $ MIL.	ASSETS CHANGE FROM 1990 %	RETURN ON INVESTED CAPITAL %	RETURN ON COMMON EQUITY %
	GROUP COMPOSITE		15235	32	21116	2	597.8	−11	18210	4	6.8	8.2
1	MASCO	196	4002	20	3141	−2	44.9	−68	3786	1	3.3	2.5
2	WHIRLPOOL	255	2967	55	6770	2	170.0	136	6162	7	NA	11.4
3	MAYTAG	378	1967	33	2971	−3	79.0	−20	2535	−2	7.1	7.8
4	CIRCUIT CITY STORES	462	1516	87	2628	13	60.9	−8	1204	18	13.8	15.2
5	ARMSTRONG WORLD INDUSTRIES	548	1183	18	2439	−3	60.6	−59	2140	1	6.2	6.5
6	LEGGETT & PLATT	742	759	34	1082	−1	39.4	34	656	−3	9.4	12.2
7	ROYAL APPLIANCE MFG.	801	687	NA	273	128	27.4	299	121	96	NA	NA
8	HEILIG-MEYERS	862	608	110	487	11	24.2	16	586	14	9.8	9.4
9	NATIONAL PRESTO INDUSTRIES	903	564	68	162	27	36.7	26	254	8	16.5	16.7
10	KIMBALL INTERNATIONAL	960	502	17	553	−6	29.9	−24	396	4	9.9	9.8
11	LA-Z-BOY CHAIR	979	480	34	610	0	24.9	−4	370	5	9.6	10.6

6C BEVERAGES

	COMPANY	MARKET VALUE TOP 1000 RANK	MARKET VALUE $ MIL.	MARKET VALUE CHANGE FROM 1991 %	SALES 12 MONTHS 1991 $ MIL.	SALES CHANGE FROM 1990 %	PROFITS 12 MONTHS 1991 $ MIL.	PROFITS CHANGE FROM 1990 %	ASSETS 12 MONTHS 1991 $ MIL.	ASSETS CHANGE FROM 1990 %	RETURN ON INVESTED CAPITAL %	RETURN ON COMMON EQUITY %
	GROUP COMPOSITE		97630	17	49347	8	3721.4	4	48817	11	15.6	21.9
1	COCA-COLA	6	52411	50	11572	13	1618.0	17	10222	10	33.3	38.3
2	PEPSICO	15	25054	−2	19608	10	1080.2	−1	18783	10	12.0	20.8
3	ANHEUSER-BUSCH	39	15619	17	10996	2	939.8	12	9960	4	15.6	21.8
4	BROWN-FORMAN	365	2063	1	1203	9	141.9	−1	1223	15	18.4	20.5
5	COCA-COLA ENTERPRISES	408	1767	−11	4051	0	−82.4	NM	6677	33	NM	−6.5
6	ADOLPH COORS	776	716	−18	1917	4	23.9	−39	1952	16	NA	2.1

6D PERSONAL CARE

	COMPANY	MARKET VALUE TOP 1000 RANK	MARKET VALUE $ MIL.	MARKET VALUE CHANGE FROM 1991 %	SALES 12 MONTHS 1991 $ MIL.	SALES CHANGE FROM 1990 %	PROFITS 12 MONTHS 1991 $ MIL.	PROFITS CHANGE FROM 1990 %	ASSETS 12 MONTHS 1991 $ MIL.	ASSETS CHANGE FROM 1990 %	RETURN ON INVESTED CAPITAL %	RETURN ON COMMON EQUITY %
	GROUP COMPOSITE		67910	20	50421	8	3138.3	−5	40076	10	15.3	23.4
1	PROCTER & GAMBLE	10	33558	11	28229	9	1787.0	3	23733	15	15.7	25.4
2	GILLETTE	58	10483	38	4684	8	427.4	16	3543	5	27.5	41.6
3	COLGATE-PALMOLIVE	112	6332	27	6060	6	124.9	−61	4324	7	7.3	11.6
4	INTERNATIONAL FLAVORS & FRAGRANCES	197	3960	22	1017	6	168.7	8	1217	8	18.9	18.3
5	AVON PRODUCTS	226	3345	36	3593	4	210.7	8	1729	−16	NA	76.5
6	TAMBRANDS	292	2629	8	661	5	79.0	−19	382	−1	31.2	31.5
7	CLOROX	301	2547	18	1679	8	62.2	−56	1484	−4	7.6	7.6
8	ECOLAB	598	1040	66	918	−9	55.7	−4	1220	21	8.4	9.1
9	BLOCK DRUG	610	1012	17	549	11	56.4	11	618	16	12.5	13.1
10	ALBERTO-CULVER	807	681	−7	930	15	31.5	−14	562	32	9.5	12.1
11	STANHOME	825	658	−18	710	5	45.1	−12	419	7	21.4	20.2
12	NEUTROGENA	887	580	36	239	13	22.1	60	159	17	20.8	20.8

	COMPANY	MARKET VALUE TOP 1000 RANK	MARKET VALUE $ MIL.	MARKET VALUE CHANGE FROM 1991 %	SALES 12 MONTHS 1991 $ MIL.	SALES CHANGE FROM 1990 %	PROFITS 12 MONTHS 1991 $ MIL.	PROFITS CHANGE FROM 1990 %	ASSETS 12 MONTHS 1991 $ MIL.	ASSETS CHANGE FROM 1990 %	RETURN ON INVESTED CAPITAL %	RETURN ON COMMON EQUITY %
3	PFIZER	16	23941	35	6950	9	722.1	−10	9635	6	15.7	14.2
4	AMERICAN HOME PRODUCTS	17	23828	33	7079	5	1375.3	12	5775	−4	NA	44.4
5	ELI LILLY	23	21105	−5	5726	10	1314.7	17	8299	16	25.7	26.5
6	SCHERING-PLOUGH	53	11452	−1	3616	9	645.6	14	4013	−2	34.3	34.9
7	SYNTEX	57	10627	24	1958	16	451.0	15	2588	26	34.5	38.5
8	MARION MERRELL DOW	66	9843	−8	2851	16	585.0	20	2762	28	34.8	41.7
9	WARNER-LAMBERT	80	8715	−16	5059	8	140.8	−71	3602	10	8.9	8.7
10	AMGEN	87	8043	59	682	128	97.9	2432	866	88	17.3	18.4
11	RHONE-POULENC RORER	89	7929	39	3824	31	326.5	NM	4143	1	20.5	36.9
12	UPJOHN	101	7009	−8	3426	13	537.4	17	4145	13	21.6	31.4
13	ALZA	240	3162	53	140	41	−62.1	NM	580	84	NM	−18.7
14	GENENTECH	243	3130	81	460	6	44.3	NM	1231	6	4.4	4.7
15	SIGMA-ALDRICH	347	2201	17	589	11	79.8	12	568	8	NA	19.2
16	IVAX	351	2148	235	159	34	8.8	NM	447	283	7.4	6.3
17	ALLERGAN	432	1640	11	839	6	−61.4	NM	834	−12	NM	−13.8
18	CARTER-WALLACE	446	1587	66	666	9	45.6	−14	572	5	11.3	11.2
19	FOREST LABORATORIES	521	1294	−2	228	41	46.5	30	362	13	15.7	15.2
20	MYLAN LABORATORIES	526	1282	47	117	12	37.1	11	214	31	19.5	19.4
21	CENTOCOR	530	1267	16	53	−18	−195.6	NM	340	24	NM	NM
22	SYNERGEN	550	1170	189	14	63	−7.1	NM	374	477	NM	−2.0
23	PERRIGO	587	1074	NA	322	NA	19.0	NA	241	NA	15.6	11.3
24	GENZYME	626	975	62	109	118	NA	NA	268	129	NA	−1.4
25	CHIRON	634	958	−7	65	38	11.8	NM	431	68	NA	4.2
26	BIOGEN	689	854	−11	61	23	7.2	−7	165	8	4.7	3.0
27	GENSIA PHARMACEUTICALS	766	730	199	5	NA	−25.1	NA	65	54	NM	−47.9
28	IMMUNEX	777	715	5	53	71	0.8	NM	254	110	NM	0.4
29	U.S. BIOSCIENCE	826	655	11	3	NM	−6.5	NM	97	141	NM	−7.1
30	GENETICS INSTITUTE	845	627	12	83	104	−10.7	NM	192	5	NM	−9.7
31	ALLIANCE PHARMACEUTICAL	873	597	271	1	0	−20.9	NM	104	101	NM	−20.7
32	MEDIMMUNE	958	505	NA	14	327	1.6	NM	65	767	5.4	4.6
33	SPI PHARMACEUTICALS	968	494	82	226	71	22.2	60	267	100	19.9	20.9
34	XOMA	984	476	7	17	−16	−34.3	NM	154	59	NA	−25.5

12C HEALTH CARE SERVICES

	COMPANY	MARKET VALUE TOP 1000 RANK	MARKET VALUE $ MIL.	MARKET VALUE CHANGE FROM 1991 %	SALES 12 MONTHS 1991 $ MIL.	SALES CHANGE FROM 1990 %	PROFITS 12 MONTHS 1991 $ MIL.	PROFITS CHANGE FROM 1990 %	ASSETS 12 MONTHS 1991 $ MIL.	ASSETS CHANGE FROM 1990 %	RETURN ON INVESTED CAPITAL %	RETURN ON COMMON EQUITY %
	GROUP COMPOSITE		30793	14	27327	16	1504.5	38	24831	10	12.2	15.1
1	HUMANA	200	3881	−23	6099	20	356.0	11	4484	8	14.8	17.6
2	U.S. HEALTHCARE	230	3309	73	1709	28	151.1	95	758	24	43.6	45.8
3	UNITED HEALTHCARE	294	2620	211	847	40	74.8	121	574	96	23.5	23.5
4	NATIONAL MEDICAL ENTERPRISES	297	2573	−29	3973	6	292.3	13	4095	5	12.4	16.4
5	NATIONAL HEALTH LABORATORIES	310	2480	79	604	20	103.9	26	411	10	31.4	31.4
6	HEALTHTRUST	466	1507	NA	2104	12	24.1	NM	2527	8	5.3	−52.2
7	T² MEDICAL	467	1504	109	166	87	39.1	96	223	40	22.4	22.2
8	MEDICAL CARE INTERNATIONAL	508	1354	33	282	17	38.3	28	523	50	18.0	15.9
9	SURGICAL CARE AFFILIATES	523	1293	110	170	38	20.7	80	179	37	29.5	27.2
10	CRITICAL CARE AMERICA	586	1075	92	233	30	13.3	−19	239	33	NA	6.6
11	MANOR CARE	646	940	25	868	15	37.2	24	950	1	9.3	13.9
12	NOVACARE	662	905	97	230	49	26.4	57	178	63	18.4	18.9
13	HEALTHSOUTH REHABILITATION	720	789	91	225	25	22.4	73	472	57	7.8	8.3
14	CONTINENTAL MEDICAL SYSTEMS	747	751	132	491	65	22.6	64	381	50	12.2	10.8
15	AMERICAN MEDICAL HOLDINGS	799	690	151	2452	−2	3.7	NM	3128	−11	1.7	0.7
16	BEVERLY ENTERPRISES	828	654	−5	2301	9	29.2	125	1673	3	6.5	5.5
17	COMMUNITY PSYCHIATRIC CENTERS	839	633	−65	393	5	45.3	−46	572	8	8.8	9.2

Avon 1 2844 ✓ 2 3229 Glassware 3 3961 Costm Jewry 4 5961

Colgate 1 2841 ✓ ② 2842 ③ 2844 ✓ ④ 3229 ④ 2 3991 ⑤ 3 2047 Dog food 3

Broom & brush

Gillette ① 3421 Cutlery ② 2844 ✓ ③ ~~3644~~ 3634 Elec Houses ④ 3951 Pens ⑤ 2899 ✓ ⑥ 3991

Intl Flavor & Frag 2869 Industr Org

P&G ① 2844 ① 2841 2 2676 San Paper ~~4~~ 3 2834 Drugs 4 2842 6 2079 0.15

284 – Soap
1 – Sch
2 – ~~Cleaning~~ Spe Clen
4 – Perf/Cosmeti

289 – Misc Chem

Chem & Alkal ⑤

283	284	286	289
Drugs	Soap, Cosmetics	Ind Chem	Misc Chem

② Paper

267
San Napkin

① Food

204	207
Dog Food	Oils

Glass ④

322
Glass

Fab Metal ③

342
Cutlery

Misc Mfg ②

395	396	399
Pens	Costume Jew	brushes

②

5861
Catalog